

National Agricultural Marketing Council Promoting market access for South African agriculture

# The South African Food Cost Review







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This publication attempts to provide more insight into the complex factors driving commodity and food prices. This is the seventh publication of the South African Food Cost Review, emanating from the recommendations by the Food Pricing Monitoring Committee in 2003 to monitor food prices in South Africa on a regular basis. The purpose of this publication is to reflect on food price trends during 2016.

# The South African Food Cost Review 2016

Published in 2017 by



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# agriculture, forestry & fisheries

Department: Agriculture, Forestry and Fisheries **REPUBLIC OF SOUTH AFRICA** 

### FOREWORD BY THE MINISTER OF AGRICULTURE, FORESTRY AND FISHERIES



The World Bank has lowered its estimates for South Africa's economic growth for the period 2017 to 2019. The reasoning for the lower projection was the expected impact of the sovereign credit ratings downgrades on domestic private sector gross fixed capital formation. S&P Global Ratings and Fitch Ratings downgraded South Africa's credit rating to junk status in April 2017. This puts us at a strain for future development as the last quarter indicated that agriculture boosted the economy. In terms of food security, the priority is to ensure the country controls its food basket and guards against running food inflation. On a policy level, this is something we will be monitoring closely.

Given the net effect on agriculture as a whole, some individuals could largely be accommodated through the normal financial systems. However, in the communal agricultural sector of South Africa, it is a totally different picture and the government's drought relief programme in partnership with the private sector saw the greatly needed support reaching those who needed it the most. Going forward, it becomes important that our early warning systems are strengthened. The year 2017 promises to be a good year for agriculture, following the drought challenges experienced since 2015. After a very difficult two-year period, conditions in the agricultural sector are expected to improve in the 2016/17 season, on the back of improved rainfall in most of the maize producing areas in South Africa, although the potential spread of the fall army worm did pose a significant risk. It has become imperative on a continual basis for the National Agricultural Marketing Council (NAMC) to monitor these trends, advising accordingly. The predicted *La Niña* may see a normalisation in crop production. With good rains, South Africa may see an easing of food inflation.

To deal with some of the remaining challenges, the Department has tabled a budget of R6,8 billion for the financial year 2017/18. The focus during this financial year will be to support job creation in the priority value chains as identified in the Revitalisation of the Agriculture and Agro-Processing Value Chain (RAAVC).

We will continue to monitor the impact of our public investments as we look forward to achieving the broader goals of the National Development Plan (NDP). As part of this quest it becomes imperative to support efforts such as the food price monitoring initiative of the NAMC.

**Mr Senzen<sup>ti</sup> Zokwana (MP)** Minister of Agriculture, Forestry and Fisheries

### **EXECUTIVE SUMMARY**

#### Global food price trends in 2016

Throughout 2016, cereal prices declined steadily – down 39% from their peak in 2011. Meanwhile, sugar prices rose by 34% and vegetable oil prices increased by 11.4%. But economic uncertainties, including movements in exchange rates, are likely to influence food markets this year (FAO, 2017a).

### Trends in agriculture, forestry and fisheries trade

South Africa still retained a positive trade balance in the agriculture, forestry and fisheries sectors, regardless of the instability in the market. Africa is still the largest export destination for South Africa's Agriculture Forestry and Fisheries (AFF) products, although with a notable decline from 42.1% in 2015 to 40.1% in 2016. Other top export markets include the EU, with a share value of 26.3% in 2016, followed by Asia and Brazil, Russia, India and China (BRIC) regional markets with share values of 22.3% and 6.9%, respectively. It is important to note that the EU (Germany, France, the Netherlands and the United Kingdom) was ranked as the largest supplier of agriculture, forestry and fishery products, with a share value of 29.8%, followed by Asia, BRIC and Africa suppliers, with share values of 27.9%, 17.7% and 14.7%, respectively.

South Africa's export performance improved significantly in the first nine months of 2016. Consequently, the deficit on the balance of trade narrowed to R10.5 billion, compared with R60.2 billion for the same period in 2015. Agricultural export performance improved in 2016 by R7 432 million, compared with R6 065 million in 2012, while agricultural imports improved by R4 278 million between 2012 and 2016.

South Africa's fishery sector comprises two distinct components, the well-established wild capture fisheries and a relatively underdeveloped aquaculture component. Trade of fishery products is important, given that it generates government revenues and enhances income and employment generation, as South Africa is a net exporter of fishery products. South Africa's fisheries are crucial for enhancing economic growth and alleviating poverty (DAFF, 2017). South Africa's fishery sector exports were valued at R128 billion, while its imports amounted to R92 billion in 2016. Notably, both imports and exports increased between 2006 and 2016.

Forestry is a key driver for the development of South Africa's local economies, particularly in rural areas where poverty is compounded by the lack of employment opportunities. Forestry and wood products provide a range of wood and non-wood products, as well as social and environmental services, such as conservation of soil, water and biological diversity. Wood and wood products, as the main commercial products of forests, include fuel wood and charcoal (particularly important in developing countries). Both exports and imports have been increasing significantly, and South Africa is a netexporter of forestry products. Forestry export performance, however, improved in 2016 by an estimated value of R30 billion worth of exports, as compared with R10 billion export revenue generated in 2006.

#### Trends in input costs

From 1993 to 2016, real net farming income increased by 352.44% and expenditure on intermediate goods and services increased by 194.58%, while gross income increased by only 158.29%. Between 2015 and 2016, real net farm income, real gross income, and real expenditure on intermediate goods and services increased by 19.11%, 6.04% and 0.73%, respectively.

From 2001 to 2016, the total Farming Requisite Price Index (FRPI) increased by 248.63%, with the price of intermediate goods and services increasing the most by 256.26%, followed by the price of materials for fixed improvements and the price of machinery and implements by 217.94% and 172.32%, respectively, between 2001 and 2016. The FRPI increased by 6.08% from 2015 to 2016, with the biggest increase of 7.65% being in the price of machinery and implements.

From 2012 to 2016, the Producer Price Index (PPI) of electricity and water increased by 49.11%; agriculture, forestry and fishing increased by 31.57%; final manufactured goods (headline PPI) increased by 31.36%; intermediate manufactured goods increased by 25.63%; and mining by 17.26%. During 2016, the increases for agriculture, forestry and fishing, mining, electricity, intermediate manufactured goods and final manufactured goods were 16.41%, 11.42%, 10.45%, 6.88% and 4.46%, respectively.

The cost of food manufacturing is not only influenced by the price of raw commodities, but also by non-food inputs. The PPI for selected materials used in the food manufacturing process showed the following trends between 2015 and 2016:

• an increase of 6.58% in the price of basic and fabricated metals;

- a 5.81% increase in the price of glass and glass products;
- a 6.37% increase in the price of rubber products;
- a 16.41% increase in the price of agriculture, forestry and fishing products;
- an 11.42% increase in the price mining;
- an increase of 10.45% in the price of electricity;
- a 6.88% increase in the price of intermediate manufactured goods;
- an 8.89% increase in the price of sawmilling and wood; and
- an increase of 4.46% in the price of final manufactured goods.

Non-food inputs that are used at almost all stages of the food value chain include fuel, electricity, labour and water. All these items fall within the category of administered and regulated prices, and showed the following price trends between 2015 and 2016:

- The regulated minimum wages for primary agriculture was R2 778.83/ month.
- The price of 0.05%-sulphur diesel in Gauteng decreased by 1.23%, and by 2.06% at the coast.
- The crude oil price decreased by 16.21%.
- The agricultural sector utilised electricity at an average of 128.19c/kWh in 2015/16, an increase of 10.45%.

#### Inflationary trends for selected food items

Stats SA has changed the base year for calculating the Consumer Price Index (CPI) to December 2016. Following these changes, the average overall South African food and non-alcoholic beverages inflation rate for 2016 was 10.52%, compared with the average rate in 2015 of 5.11%.

Provincially, the Limpopo province experienced the highest annual food inflation increase (8.4%) between December 2015 and December 2016. This was followed by the Eastern Cape (7.8%), KwaZulu-Natal (7.6%), and Free State (7.3%) provinces.

#### Trends in prices, farm values and price spreads

The margin between farm-gate prices and the price the consumer pays for selected food items is a topic that is frequently debated. In order to better understand the difference between farmgate and retail prices, the farm values of selected products and the Farm-To-Retail-Price-Spreads (FTRPS) were calculated. The farm value share is the value of a farm product's equivalent in the final food product purchased by the consumer. The FTRPS is the difference between what the consumer pays for the food product at retail level and the value of the farm product used in that product. Price spreads measure the aggregate contributions of food manufacturing, distribution, wholesale and retail firms that transform farm commodities into final products:

- **Poultry:** The real FTRPS of fresh whole chicken increased by 6.06%, on average, between 2015 and 2016. During the same period, the farm value share of fresh whole chicken decreased by 5.25%. The average farm value share for fresh whole chicken per kg in 2016 was 53.74%.
- **Beef:** The average real FTRPS of beef increased by 0.79% between 2015 and 2016 and reached R26.77 in December 2016. The farm value share of beef decreased by 0.62% between 2015 and 2016. The farm value share of beef was 59.09% in December 2016.
- Lamb: The real FTRPS of lamb increased by 26.80% between 2015 and 2016 and was R5.18, on average, during 2016. The

real farm value share of lamb decreased by 1.50% between 2015 and 2016. The farm value share of beef was 92.17%, on average, during 2016.

- Pork: The average real FTRPS decreased from R461.24 in 2015 to R437.12 in 2016 (-5.23%). The real farm value increased by 1.78%, on average, between 2015 and 2016 and was 35.46%, on average, during 2016.
- Milk: In January 2012, the spread was R7.08/l, reaching a peak of R9.49/l in August 2015. The average real FTRPS decreased from R8.69/l to R8.56/l (-1.52%) between 2015 and 2016.
- Maize: The FTRPS for super maize meal between January 2008 and December 2016. The FTRPS showed high instability as a result of a substitution effect between special and super maize meal. When prices change, a likelihood that arises is that consumers tend to switch to an affordable option of maize meal as pressure on disposable income is realised. The FTRPS of super maize meal between 2008 and 2016 was fluctuating between R1 218/ton and R2 129/ton.
- Wheat: The average FTRPS for brown bread was R21 754/ton of flour in 2016, while the white bread average FTRPS was R22 343/ton of flour in 2016.

#### **Selected topics**

The Food Cost Review: 2016 also features selected topics with regard to food production, food security and food prices. In this issue, the topics relate to:

• Grain crops and red meat production outlook in 2016/17 season: possible effects of good rainfall.

#### ACKNOWLEDGEMENTS

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## Acronyms

	Definition
AFF	Agriculture, Forestry and Fisheries
AMT	Agrimark Trends
BRIC	Brazil, Russia, India and China
BRICS	Brazil, Russia, India, China and South Africa
CBS	Citrus Black Spot
CEC	Crop Estimates Committee
CPI	Consumer Price Index
DAFF	Department of Agriculture, Forestry and Fisheries
DAP	Di-Ammonium Phosphate
EU	European Union
FAO	Food and Agricultural Organization
Fertasa	Fertiliser Association of South Africa
FRPI	Farming Requisite Price Index
FSSA	Fertiliser Society of South Africa
FTRPS	Farm-To-Retail-Price-Spread
GDP	Gross domestic product
Grain SA	Grain South Africa
GTA	Global Trade Atlas
HS Codes	Harmonized System Codes
IDC	Industrial Development Corporation of South Africa
IEA	International Energy Association
IFA	International Fertilizer Industry Association
kWH	Kilowatt Hour
МОР	Muriate of Potash
MPO	Milk Producers' Organisation
NAMC	National Agricultural Marketing Council
NERSA	National Energy Regulator of South Africa
NFD	National Freight Database
OPEC	Organization of the Petroleum Exporting Countries
PPI	Producer Price Index
PRI	Protein Research Institute
SADC	Southern African Development Community
SAFEX	South African Futures Exchange
SAGIS	South African Grain Information Service
SAPIA	South African Petroleum Industry Association
SAMPRO	South African Milk Processors' Organisation
SAWS	South African Weather Services
Stats SA	Statistics South Africa
UK	United Kingdom
UN	United Nations
US	United States
USA	United States of America
VAT	Value-Added Tax
WTA	World Trade Atlas

# Part 1 WHAT HAPPENED TO FOOD PRICES?



### 1. WHAT HAPPENED TO FOOD PRICES?

#### 1.1 Global food price trends in 2016

Global food prices have declined for the fifth consecutive year, due in part to bumper harvests, according to the United Nations (UN) Food and Agriculture Organization (FAO). The FAO's Food Price Index measures monthly changes in international prices for five commodity groups – major cereals, vegetable oils, dairy, meat and sugar.

Throughout 2016, cereal prices declined steadily – down 39% from their peak in 2011. Meanwhile, sugar prices rose by 34% and vegetable oil prices increased by 11.4%. However, economic uncertainties, including movements in exchange rates, are likely to influence food markets this year (FAO, 2017a).

Vegetable oil prices rose by 4% from November 2016, due in part to low global-inventory levels and tight supplies of palm oil, and rising consumption of soybean oil for biodiesel production in North America and South America. Higher prices for butter, cheese and whole-milk powder, due to restraints in the European Union and Oceania, drove dairy prices up by more than 3%. Sugar indexes fell due to a weakening Brazilian currency, while meat indexes fell because of lower costs in bovine and poultry meats.

The international food price index decreased by 2.95%, on annual average, between 2015 and 2016 (**Figure 1**).





Source: FAO (2017)

**Figure 2** shows the international price indices for various food categories from 2012 to 2016. The yearon-year, (December 2016 vs. December 2015) growth increases in the food category were as follows: the oils price index (+27.46%), followed by the dairy price index (+26.98%), the sugar price index (+24.54%) and the meat price index (+3.02%). The cereals price index showed an annual decrease of 7.55%.





Source: FAO (2017)





### 2. SOUTH AFRICA'S AGRICULTURE, FORESTRY AND FISHERIES TRADE REVIEW

#### 2.1 Introduction

In light of the drought which occurred in 2015/16 that affected South Africa (and some other countries in Southern Africa), the agriculture, forestry and fisheries sectors (combined) have not grown as fast, as compared with other sectors (mining, manufacturing, etc.) over the past few decades, but remain a critical sector that provides for employment and food security in the country, particularly in rural areas. Despite their small direct share of the total Gross Domestic Product (GDP), Agriculture, Forestry and Fisheries (AFF) are vital to the South African economy (Department of Agriculture, Forestry and Fisheries (DAFF), 2016). These sectors supply some of the most important material needs of South Africans, such as food and fibre, while providing large numbers of employment and self-employment opportunities. **Figure 3** provides the trend in South Africa's AFF trade over the last 10 years. The AFF sector mostly exports chemical wood pulp, oranges, wine packaged in 2l containers, grapes and apples. Overall, South Africa exported AFF goods valued at R166 billion, while imports amounted to R120 billion, in 2016. Maize, rice, wheat palm oil and chickens are the products largest in number imported by the AFF sector. Both AFF exports and imports for 2016 registered significant increases of 17% and 15%, respectively, in comparison with the 2015 period.

South Africa still retained a positive trade balance in agriculture, forestry and fisheries sectors, regardless of the instability in the market. Africa is still the largest export destination for South Africa's AFF products, although with a notable decline from 42.1% in 2015 to 40.1% in 2016. Other top export markets include the European Union (EU), with a share value of 26.3% in 2016, followed by Asia and Brazil, Russia, India and China (BRIC) regional markets with share values of 22.3% and 6.9%, respectively. It is important to note that the EU (Germany, France, the Netherlands and the United Kingdom (UK)) was ranked as the largest supplier of agriculture, forestry and fishery products, with a share value of 29.8%, followed by Asia, BRIC, and Africa suppliers, with share values of 27.9%, 17.7% and 14.7%, respectively.





Source: Global Trade Atlas (2017)

#### 2.2 South Africa's agricultural trade review

The value of world trade in agricultural commodities has been growing rapidly over the recent decades, especially in high-value agricultural commodities such as horticultural products. It has been argued that the world trade in processed agricultural products has been growing faster than the global trade in unprocessed agricultural products has (Liapis, 2011:16). According to the Industrial Development Corporation of South Africa (IDC) (2016), South Africa's export performance improved significantly in the first nine months of 2016. Consequently, the deficit in the balance of trade narrowed to R10.5 billion, compared with R60.2 billion for the same period in 2015. **Figure 4** provides the trend in South Africa's agricultural trade performance for the past 10 years. Agricultural export performance improved in 2016 by R7 432 million, compared with R6 065 million in 2012, while agricultural imports improved by R4 278 million between 2012 and 2016. It is clear from **Figure 4** that South Africa has been a net exporter of agricultural products throughout the review period.





**Table 1** provides a detailed analysis of the main agricultural export commodities to the world, including their main destinations. South Africa's agricultural exports can be divided into two types of products, i.e. exports of (a) processed products and (b) unprocessed products. South Africa's major agricultural exports are fruits (oranges, grapes and apples) and unprocessed agricultural products constitute a larger share, as compared with processed products. All the reviewed agricultural products showed a significant export growth between 2012 and 2016, with oranges as the largest exported product and the EU remaining a traditional market for this product. In 2016, the agricultural products exported stood at R128 billion, with processed agricultural products constituted 46% of the share value. Wine and table grapes were among the top three exported agricultural products, while the UK, the Netherlands and Germany were among the leading export markets for both commodities.

Source: Global Trade Atlas (2017)

Product	Product	Value in R' million		Growth (%)	Main destination market(s) for
HS6 code	Description	2012	2016	2012-2016	South Africa's export products
Agricultu	ral products	56 320	128 012	127	
080510	Oranges	4 782	8 839	85	Netherlands (18.8%), UAE (9.6%), Saudi Arabia (8.9%), Hong Kong (6.3%) and China (6.1%)
220421	Wine in 2l packaging	3 633	6 555	80	UK (14.8%), Germany (11.5%), Netherlands (10.6%), USA (7.9%) and China (7.7%)
080610	Grapes	3 532	6 415	82	Netherlands (37.4%), UK (25.8%), Hong Kong (6.3%), Germany (3.8%) and UAE (3.3%)
080810	Apples	2 595	5 275	103	UK (18%), Malaysia (11.5%), Nigeria (8.9%), UAE (5.4%) and Bangladesh (5%)
100590	Corn	2 950	4 454	51	Zimbabwe (34.6%), Botswana (18.4%), Lesotho (11.2%)
080550	Lemons	901	3 901	333	SA (79.3%), Brazil (7.7%), Spain (6.7%), Turkey (4%) and UAE 2.1(%)
510111	Wool	2 299	3 802	65	China (73.7%), Czech (17.3%), Italy (4.1%), India (3.7%) and Egypt (0.9%)
220429	Wine	2 071	2 853	38	UK (20.7%), Germany (14.6%), Den- mark (11.6%), Sweden (8.6%) and Russian Fed (7%)
080830	Pears	1 308	2 792	113	Netherlands (20.8%), UAE (11.3%), Russian Fed (7.1%), Germany (6%) and UK (5.4%)
080520	Mandarins	924	2 787	202	UK (34.6%), Netherlands (25.2%), USA (6.1%), Hong Kong (5.5%) and Russian Fed (5.2%)

Table 1: Main agricultural products exported by South Africa between 2012 and 2016

#### Source: Global Trade Atlas (2017)

**Table 2** indicates the top ten imported agricultural products between 2012 and 2016. Agricultural imports constitute only a small proportion of the country's total imports. In 2016, the agricultural products imported stood at R92 billion, with processed agricultural products constituting 70% of the share value, while unprocessed agricultural products constituted 30% of the share value. Corn was the largest imported agricultural product, with a growth rate of 4 679% between 2012 and 2016, followed by rice and wheat with growth rates of 7% and 21%, respectively. All products reviewed are dominated by grain products that are unprocessed. South Africa imported a larger share of maize in

2016, as compared with the 2012 period, due to the drought disaster that affected maize production in a negative way. Chicken cuts were the largest processed agricultural products among all products reviewed, with a growth rate of 60% between 2012 and 2016, and the majority of chicken cuts are from the Netherlands (34%), Brazil (14.4%) and the UK (12.8%).

Product	Product	Value in R' million		Growth (%)	Main destination market(s) for
HS6 code	Description	2012	2016	2012-2016	South Africa's imported products
Agricultu	ral products	53 800	92 051	71	
100590	Corn	175	8 363	4 679	Argentina (47%), Mexico (31.8%), Brazil (9.2%), USA (4%) and Uruguay (2.7%)
100630	Rice	5 566	5 957	7	Thailand (55.3%), India (27.4%), UAE (4.1%), Hong Kong (3.1%) and Vietnam (2.4%)
100199	Wheat	3 761	4 567	21	Russian fed (43.3%), Germany (12.2%), USA (11.6%), Lithuania (8.5%) and Poland (8%)
151190	Palm Oil	3 336	4 216	26	Indonesia (53.8%), Malaysia (46.1%)
020714	Chicken Cuts	2 494	3 979	60	Netherlands (34%), Brazil (14.4%), UK (12.8%), Spain (10%) and Belgium (9.1%)
230400	Soybean Oilcake	2 808	2 963	6	Argentina (99.9%) and India (0.1%)
220830	Whiskies	2 295	2 496	9	UK (82%), Ireland (7.8%), USA (5.1%), France (2.4%) and UAE (1.3%)
210690	Food Preparations	1 323	2 369	79	USA (15.9%), UK (10.5%), Germany (9.9%), Netherlands (9%) and Poland (7.2%)
170113	Cane Sugar	116	1 775	1 430	Swaziland (99.8%) and unspecified partner (0.2%)
240120	Tobacco	929	1 710	84	Zimbabwe (45.1%), Brazil (32.2%), India (5.9%), Mozambique (5.4%) and Malawi (3.6%)

Table 2: Main agricultural imported products between 2012 and 2016

Source: Global Trade Atlas (2017)

#### 2.3 South African Fishery trade review

South Africa's fishery sector comprises two distinct components, the well-established wild capture fisheries and a relatively under-developed aquaculture component. Trade of fishery products is important, given that it generates government revenues and enhances income and employment generation, as South Africa is a net exporter of fishery products. South Africa's fisheries are crucial for enhancing economic growth and alleviating poverty (DAFF, 2017). **Figure 5** highlights the trade performance of the fishery sector between 2006 and 2016. South Africa's fishery sector exports were valued at R128 billion, while imports amounted to R92 billion in 2016. Notably, both imports and exports increased between 2006 and 2016.



Figure 5: South African Fishery trade performance

**Table 3** indicates South Africa's main fishery products exported to global markets between 2006 and 2016. All the reviewed fishery products showed a significant export growth between 2012 and 2016. South Africa's fishery exports were worth R7 billion in 2016, with a growth rate of 86% between 2012 and 2016. It is important to note that South Africa exported 37% of processed products and 63% of unprocessed products during the 2016 period, which shows that the larger value of fishery products exported to the world is dominated by fresh fishery products. Hake fillets were ranked as the largest exported fishery product, and the export value increased from R665 million in 2012 to R1 499 million in 2016. Cuttlefish was in second place, with a growth rate of 156% between 2012 and 2016, followed by frozen hake and rock lobster with values of R604 million and R549 million in 2016, respectively. Italy was the main destination market for hake fillets and cuttlefish, constituting 31.2% and 46.8%, respectively, of total exports by South Africa, while Spain was the main destination for frozen hake.

Source: Global Trade Atlas (2017)

Product HS6	Product	Valu mil	e in R' Ilion	Growth (%)	Main destination market(s) for South
code	Description	2012	2016	2012-2016	Airica's export products
Fishery p	roducts	3 989	7 432	86	
030474	Hake Fillets	665	1 499	125	Italy (31.2%), Spain (20.2%), Australia (10.4%), Portugal (8.2%) and France (6.7%)
030749	Cuttlefish & Squid	389	995	156	Italy (46.8%), Spain (29.5%), Greece (7.1%), Portugal (5.5%) and Ireland (1.8%)
030366	Hake, Frozen	271	604	123	Spain (40%), Portugal (33.4%), Italy (12.6%), Namibia (5.8%) and Ethiopia (1.5%)
030621	Rock Lobster	318	549	73	Vietnam (35.7%), Hong Kong (30.3%), China (17.8%), Japan (6.1%) and Taipei (3.9%)
030789	Abalone	152	496	226	Hong Kong (77%), Taipei (15.4%), Singapore (4.2%), Malaysia (1.6%) and Japan (0.9%)
030389	Fish, Frozen	192	407	112	Italy (30.8%), Portugal (19.6%), Korea (11.8%), Spain (11.1%) and Taipei (6.3%)
030611	Rock Lobster and Other	216	293	36	USA (80.2%), Japan (10.7%), Switzerland (4.6%), Australia (1.3%) and Italy (1%)
160557	Abalone	51	249	388	Hong Kong (85.5%), Singapore (9.9%), Malaysia (3.3%), Taipei (0.8%) and China (0.5%)
160413	Sardines	40	243	508	Botswana (36.9%), Lesotho (22.8%), Namibia (13.3%), Swaziland (9.8%) and Zambia (5.6%)
160419	Fish	184	237	29	Germany (56.3%), Australia (16.9%), Italy (15%), Mauritius (3.1%) and France (2.1%)

#### Table 3: Main Fishery exported products, 2012–2016

Source: Global Trade Atlas (2017)

**Table 4** highlights the main fishery imports into South Africa between 2006 and 2016. Out of all fishery products imported by South Africa from the world, processed fishery products constituted 40%, while unprocessed fishery products constituted 60% in 2016. In 2012, fishery imports were worth R2 billion, with R5 billion being imported during 2016 period, resulting in a 79% growth rate. Sardines were the most imported fishery product, with an import value of R935 million in 2016, and registered a negative growth rate of 22% between 2012 and 2016. Thailand and Namibia were the largest suppliers of sardines, collectively, with a share of 75.5%. Shrimps and prawns, and frozen sardines were among the main imported fishery products, with growth rates of 107% and 8 271%, respectively. Tuna was ranked as the third largest imported product in 2014, but it experienced a negative growth rate of 15% in 2016 (ranked 4<sup>th</sup>).

Product HS6	Product	valu mil	e in R' llion	Growth (%)	Main destination market(s) for South
code	Description	2012	2016	2012-2016	Africa's imported products
Fishery pr	oducts	2 953	5 274	79	
160413	Sardines	1 197	935	-22	Thailand (49.8%), Namibia (25.5%), China (22.3%), Portugal (0.9%) and Poland (0.7%)
030617	Shrimps and Prawns	317	656	107	India (51.1%), Argentina (19.3%), Vietnam (8.6%), Ecuador (6.6%) and Saudi Arabia (5.3%)
030353	Sardines, Frozen	7	586	8 271	Morocco (75.9%), Mauritania (12.7%), Netherlands (9.7%), Spain (1.5%) and Portugal (0.2%)
160414	Tunas	409	348	-15	Thailand (96.7%), Indonesia (1.4%), China (0.5%), Philippines (0.4%) and Mauritius (0.3%)
030749	Cuttlefish & Squid	168	341	103	China (37.6%), India (15.7%), Korea (12.6%), Spain (8.7%) and Namibia (5.9%)
030389	Fish, Frozen	119	319	168	New Zealand (50.6%), Namibia (28%), Japan (7.5%), Taipei (6.9%) and China (1.7%)
030355	Jack and Horse Mackerel, Frozen	7	287	4 000	Namibia (93.9%), Unspecified countries (5.5%), Norway (0.2%), New Zealand (0.2%) and China (0.1%)
030474	Hake Fillets, Frozen	5	270	5 300	Namibia (96.8%), USA (1.5%), Canada (1.2%), Unspecified partners (0.4%)
030366	Hake, Frozen	31	269	768	Namibia (56.9%), China (12.3%), Argentina (9%), USA (7.1%) and Canada (6.2%)
030214	Atlantic Salmon and Danube Salmon	20	123	515	Norway (99.9%) and Netherlands (0.1%)

#### Table 4: Top ten Fishery products imported by South Africa between 2012 and 2016

Source: Global Trade Atlas (2017)

#### 2.4 South African Forestry trade review

Forestry is a key driver for the development of South Africa's local economies, particularly in rural areas where poverty is compounded by the lack of employment opportunities. Forestry and wood products provide a range of wood and non-wood products, as well as social and environmental services, such as conservation of soil, water and biological diversity. Wood and wood products, as the main commercial products of forests, include fuel wood and charcoal (particularly important in developing countries).

**Figure 6** indicates South Africa's forestry trade performance for the period between 2006 and 2016. The figure further illustrates the point that during the period under observation, both exports and imports had been increasing significantly, and that South Africa is a net-exporter of forestry products. In 2007, 2012 and 2013, South Africa experienced a negative trade balance (net-importer). Forestry export performance, however, improved in 2016 by an estimated value of R30 billion worth of exports, as compared with the R10 billion export revenue generated in 2006.





Source: Global Trade Atlas (2017)

**Table 5** highlights South Africa's most exported forestry products and also indicates the growth of these products in the past ten years. South Africa's forestry sector exported a total of R30 billion in 2016, with a growth rate of 120% between 2012 and 2016. Of the R30 billion exported by South Africa, processed products constituted 32%, while 68% of the export share constituted unprocessed products. Chemical wood pulp was ranked as the largest forest product exported by South Africa in 2016, with a value of R144 million, and China received 32.7% of chemical wood pulp exported by South African, while India received 24.1%. Kraftliner was ranked as the second largest forestry product, with a value of R110 million in 2016, and Belgium, Germany and the UK were the top destinations, constituting 50.6%, collectively. All the reviewed agricultural products showed a significant export growth between 2012 and 2016, excluding paper products which had a negative growth rate of 24%.

Product HS6 codes	Product Description	Value in R' million		Growth (%)	Main destination market(s) for	
		2012	2016	2012-2016	South Africa's export products	
Forestry products		13 868	30 536	120		
470200	Chemical Wood pulp	4 949	10 594	114	China (32.7%), India (24.1%), Indonesia (18.9%), Thailand (6.7%) and UK (3.2%)	
480419	Kraftliner	1 589	3 330	110	Belgium (27.7%), Germany (11.5%), UK (11.4%), Spain (10.7%) and Italy (8.5%)	
440122	Wood in Chips	1 309	2 900	122	Japan (78.8%), India (18.2%), China (2.4%) and Ireland (0.5%)	
470329	Chemical Woodpulp, Soda	755	1 529	103	China (48.2%), Thailand (19.1%), Indonesia (10.4%), Philippines (9%) and Taipei (5.1%)	
481910	Cartons, Boxes and Cases	260	692	166	Mozambique (19.5%), Botswana (12.4%), Zimbabwe (12.3%), Swaziland (10.7%) and Namibia (10.2%)	
441820	Doors and Their Frames	127	630	396	UK (27.9%), Botswana (17.6%), USA (14.1%), Namibia (11.1%) and Lesotho (6%)	
490199	Printed Books, Brochures	228	624	174	Namibia (19.9%), Swaziland (13.9%), Congo DR (11.7%), UK (7.6%) and Botswana (7%)	
480256	Paper	707	540	-24	Tanzania (18.4%), Zimbabwe (15.9%), Mozambique (11.8%), Zambia (10.4%) and Uganda (8.7%)	
440710	Coniferous Wood Sawn	63	513	714	Botswana (37.6%), Namibia (23.3%), Mozambique (17.9%), Seychelles (7.2%) and Lesotho (6.9%)	
440310	Wood in the Rough	180	476	164	Namibia (24.6%), Botswana (23.1%), Zambia (17.7%), Mozambique (10.4%) and Tanzania (5.9%)	

#### Source: Global Trade Atlas (2017)

**Table 6** shows South Africa's main imported forestry products and also indicates the main destination markets for South Africa's forestry exports. Forestry products imported by South Africa improved in value terms during the 2012–2016 period from R14 billion to R22 billion, implying a positive growth rate. It is important to note that processed products constituted a lager import share of 57%, leaving the 43% share for the unprocessed products. Printed books and brochures comprised the largest forestry product category that was imported, with a monetary value of R1 632 million, followed by coated paper and chemical wood pulp, with growth rates of 75% and 129%, respectively. The UK, the USA and Swaziland were the main suppliers of printed books and brochures, with a share value of 67.2%, collectively. All the reviewed agricultural products showed a significant export growth between 2012 and 2016.

Product HS6 code	Product Description	Value in R' million		Growth (%)	Main import market (s) for South	
		2012	2016	2012-2016	Africa's imported products	
Forestry products		14 270	22 895	60		
490199	Printed Books, Brochures	1 452	1 632	12	UK (35%), USA (20.9%), Swaziland (11.3%), China (10.5%) and Poland (4.1%)	
481159	Paper, paperboard Coated	672	1 176	75	Turkey (28.8%), Pakistan (10.6%), India (10.4%), Brazil (7.8%) and China (7.6%)	
470321	Chemical Woodpulp, Soda	334	766	129	USA (45.1%), New Zealand (26.5%), Brazil (11.3%), Finland (8.1%) and Sweden (4.9%)	
481029	Paper, Paperboard Light-Weight	356	698	96	Finland (43.5%), Korea (32.3%), China (15.8%), Germany (3.7%) and Indonesia (1.3%)	
480261	Paper and Paperboard, Uncoated	642	692	8	Finland (35.3%), Sweden (24.4%), Germany (20.1%), Belgium (7.6%) and Netherlands (5.6%)	
481190	Paper, Cellulose Coat	393	679	73	Germany (30.6%), China (16.9%), France (7%), Belgium (6.8%) and Austria (6.1%)	
481141	Gummed paper	359	673	87	Poland (22.1%), India (19.6%), France (15.5%), Italy (9%) and Spain (7.7%)	
481151	Paper, bleach, Wt. > 150G/M2	392	585	49	Finland (22.5%), Germany (19.8%), USA (17.8%), Sweden (17%) and Austria (8.5%)	
481092	Paper coated Multi-ply	325	583	79	Sweden (31.3%), Brazil (18.2%), USA (12.9%), China (9.4%) and Korea (8.7%)	
440729	Other Tropical Wood, Wood Sawn	132	535	305	Swaziland (76.3%), Gabon (11.5%), Malaysia (4.2%), Indonesia (2.9%) and Ghana (2.2%)	

#### Table 6: Main Forestry imports by South Africa 2012–2016

Source: Global Trade Atlas (2017)

Part 3 TREND IN INPUT COSTS

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### 3. TRENDS IN INPUT COSTS

#### 3.1 Terms of trade for primary agriculture

The rise in input costs at farm level creates what is known as the cost-price squeeze effect. This is best illustrated by calculating the terms of trade at the primary agricultural level by dividing the primary Producer Price Index (PPI) by the Farming Requisite Price Index (FRPI); i.e. the prices received by farmers for their output, divided by the prices paid for farm inputs. It is evident that the terms of trade at the primary agricultural level have deteriorated significantly, over time, as illustrated in **Figure 7**. There was, however, some relief during the commodity price boom from 2005 to 2007. The terms of trade for primary agriculture reached a peak in 2007 and then decreased drastically until 2010. The increase from 2013 continued during 2014, 2015 and 2016. The terms of trade for primary agriculture improved by 10.12% during 2016.



#### Figure 7: Terms of Trade (2001–2016)

#### Source: Own calculations based on data from DAFF (2017)

The overall financial position of primary producers is constantly under pressure. **Figure 8** shows the real gross income, real expenditure on intermediate goods and services, and the real net farming income from 1993 to 2016. Over the depicted period, real net farming income increased by 352.44% and expenditure on intermediate goods and services increased by 194.58%, while gross income increased by only 158.29%. Between 2015 and 2016, real net farm income, real gross income and real expenditure on intermediate goods and services increased by 19.11%, 6.04% and 0.73%, respectively.

### Figure 8: Real gross income, expenditure on intermediate goods and services, as well as farming income (1993–2016)



### Source: Own calculations based on data from DAFF (2016) and Statistics South Africa (Stats SA) (2017)

Within the ambit of the aforementioned, this section reflects on cost trends for selected inputs in the primary agriculture and the food value chain, which cause this cost-price squeeze.

#### 3.2 Farming Requisite Price Index (FRPI) trends

The FRPI, as calculated by the DAFF, measures the trends of prices that farmers pay for farming inputs. The total FRPI includes prices of machinery and implements, material for fixed improvements, and intermediate goods and services, and is a weighted average index.

From **Figure 9**, it is evident that all the input categories' prices showed continuous increases throughout the depicted period. The total FRPI increased by 248.63%, with the price of intermediate goods and services increasing the most by 256.26%, followed by the price of materials for fixed improvements and the price of machinery and implements by 217.94% and 172.32%, respectively, between 2001 and 2016. The FRPI increased by 6.08% from 2015 to 2016, with the biggest increase of 7.65% being in the price of machinery and implements.





#### Source: DAFF (2017)

**Figure 10** illustrates the price trends of intermediate goods and services, that is, fertiliser, fuel, animal health and crop protection, animal feed, packing material and maintenance, and repairs from 2001 to 2016. When considering the price trends of intermediate goods and services, although they were slightly increasing from 2006, it is clear that the price of fuel increased drastically from 2007 to 2008, by 15.35%. The price of fertiliser came down during 2009 and 2010, but not to the levels experienced prior to 2008. The animal feed price was the highest from 2012 to 2016. From 2001 to 2016, the price of animal feed rose by 328.13%, the price of fertiliser rose by 245.74%, and the price of fuel increased by 239.31%. The price trends of these inputs from 2015 to 2016 were as follows: an increase of 6.25% in the price of animal feed, an increase of 4.92% in the price of fuel, and an increase of 3.04% in the price of fertiliser.





Source: DAFF (2017)

#### 3.3 Producer Price Index (PPI) trends

As mentioned above, the cost of food manufacturing is not only influenced by the price of raw commodities as inputs, but also by non-food inputs. Among these are the costs of diesel, packaging material, electricity and labour. The PPI – as calculated by Stats SA – was reclassified and rebased during 2013. The index changed from a first point of sale (factory level) measure to a stage of production measure. Thus, the new PPI measures the change in the prices of goods either as they leave their place of production or as they enter the production process. This index includes the production stages of final manufactured goods, intermediate manufactured goods, electricity and water, mining and agriculture, forestry and fishing.

The PPI is measured at production stages and is a weighted average index to indicate the production inflation of the economy. **Figure 11** shows the PPI for the different stages of production. From 2012 to 2016, the PPI of electricity and water increased by 49.11%, agriculture, forestry and fishing increased by 31.57%, final manufactured goods (headline PPI) increased by 31.36%, intermediate manufactured goods increased by 25.63%, and mining by 17.26%. During 2016, the increases for agriculture, forestry and fishing, mining, electricity, intermediate manufactured goods and final manufactured goods were 16.41%, 11.42%, 10.45%, 6.88% and 4.46%, respectively.



#### Figure 11: PPI for selected industry groups (2012-2016)

#### Source: Stats SA (2017)

**Figure 12** shows the PPI for intermediate manufactured goods. These items are not industry-specific, but indicate price trends to industry on the input side. From 2012 to 2016, the PPI of sawmilling and wood increased by 27.96%, glass and glass products increased by 26.13%, rubber products increased by 24.45%, and basic and fabricated metals increased by 20.89%.

Price trends between 2015 and 2016 for the items depicted were as follows: sawmilling and wood increased by 8.89%, basic and fabricated metals increased by 6.58%, rubber products increased by 6.37%, and glass and glass products increased by 5.81%.



#### Figure 12: PPI for selected input items (2012–2016)

#### 3.4 Trends in the cost of selected inputs

#### 3.4.1 Fertiliser prices

#### International fertiliser prices

The main role of fertilisers is in replenishing nutrients in the soil to make it productive for agricultural practices. According to the International Fertilizer Industry Association (IFA) (2016), in response to sharply declining commodity prices, commercial farmers reduced their fertiliser application rates in 2014. Low international commodity prices and weakened economic activity in emerging economies impacted further on the fertiliser supply and demand situation. Global nutrient demand in 2015 was adequately supplied from existing production capacity and from newly-commissioned operations. However, issues and political tensions have continued to influence on production and global trade. According to the FAO (2017), the world demand for total fertiliser nutrients is estimated to grow at 1.6% per annum from 2015 to 2019. The demand for potash, phosphate, and nitrogen is forecasted to grow annually by 2.5%, 2.0% and 1.2%, respectively, during the period. This will affect the global capacity of fertiliser products, intermediates and raw materials over the next five years. On the supply side, the fertiliser industry will invest close to US\$130 billion in more than 150 new production units, increasing global capacity by over 150 million tonnes of products between 2016 and 2020.

**Figure 13** illustrates the trend of international fertiliser prices between 2002 and 2016. There has been a fluctuation of prices under the reviewed period, where Muriate of Potash (MOP), Urea and Di-Ammonium Phosphate (DAP) increased by 168.43%, 163.06% and 160.35%, respectively. Between 2015 and 2016 the price of Urea, MOP and DAP decreased by 3.82%, 1.41% and 0.98%, respectively.



#### Figure 13: International fertiliser prices (2002–2016)

Domestic fertiliser prices

The South African fertiliser industry is fully exposed to world market forces in a totally deregulated environment, with no import tariffs or government-sponsored measures being in place. The local demand for fertiliser is in the region of 2 million physical tons. This amounts to approximately 750 000 tons of plant nutrient (N +  $P_2O_5 + K_2O$ ). **Table 7** shows the South African fertiliser demand, domestic production and import situation.

Nutrient	Demand (thousand tons)	Domestic production (thousand tons)	Imports (thousand tons)	Products	
Nitrogen (N)	400	250	150	Mostly Urea	
$D$ bosphata ( $D \cap $ )	200	> 75% of	< 25% of	Mostly DAP	
Phosphate $(P_2O_5)$	200	demand	demand		
Potassium (K <sub>2</sub> O)	160	None	All	Mostly MOP	

#### Table 7: The South African fertiliser demand, domestic production and imports

#### Source: Fertiliser Society of South Africa (FSSA) (2012)

South Africa imported 1.8 million tons, and exported 755 821 tons, of fertilisers in 2016. South Africa is a net importer of potassium and imports approximately 40% of its nitrogen requirements (Fertasa, 2017). Thus, the domestic prices are significantly impacted on by the international prices of raw materials and fertilisers, as well as shipping costs and the rand/dollar exchange rate. **Figure 14** details the analysis of movements for South African fertiliser prices between 2002 and 2016. Prices for all the local fertilisers, MAP, Urea Granular (46) and Potassium Chloride (KCL), showed increases, of 218.98%, 169.02% and 151.75%, respectively, between 2002 and 2016. Furthermore, on average, the price movements were generally sideways and with some smaller fluctuations until the end of 2007, after which they escalated during 2008 with decreased during 2009, except for KCL. During the reviewed period, MAP and Urea Granular (46) reached their peaks in 2008, while KCL had the highest price in 2009. The prices of MAP and KCL increased by 1.89% and 1.04%, respectively, while Urea Granular decreased by 7.59% between 2015 and 2016.


#### Figure 14: Local fertiliser price trends (2002-2016)



#### 3.4.2 Administered and regulated prices

An administered price is defined as the price of a product that is set consciously by an individual producer or group of producers, and/or any price that can be determined or influenced by government, either directly or through a government agency/institution, without reference to market forces.

Examples of administered prices are the following:

- Housing (assessment rates, sanitary fees, refuse removal, water, electricity and paraffin);
- Transport (fuel (petrol), public transport trains, motor licences and motor vehicle registration);
- Communication (telephone fees, postage, cell phone calls);
- Recreation and culture (television licence);
- Education (school fees and university, Technikon and college fees); and
- Restaurants and hotels (including university boarding fees).

Regulated prices are those administered prices that are monitored and controlled by government policy. To this end, price regulation does not necessarily imply the presence of an economic regulator, but a restriction on the extent to which prices may vary, depending on government's policy objective.

Examples of administered prices that are regulated are the following:

- Housing (water, electricity and paraffin);
- Transport (fuel (petrol)); and
- Communication (telephone fees, postage, cell phone calls).

### Transport

#### International crude oil prices

Crude oil is not only the primary feedstock for the fuels that transport everything around the globe, but also a feedstock for many items along the supply chain. Crude oil prices affect food value chains in several complex ways, from influencing the prices of primary agricultural inputs, to inputs used in value addition processes (e.g., packaging) to the distribution of food. Trends in the crude oil price therefore constitute an important indicator of trends in prices throughout the food value chain.

The movement of the crude oil price from 2002 to 2016 is illustrated in **Figure 15**. Crude oil was valued at US\$24.89 per barrel in 2002, where after it increased at a decreasing rate until it rocketed in the early part of 2007 and reached an average price of US\$97.55 per barrel in 2008. However, crude oil prices decreased significantly by 36.7% to US\$61.80 per barrel in 2009, compared with 2008.

The International Energy Agency (IEA) (2009) reported that the price of oil depends on a multitude of global economic factors, such as economic growth, future demand and supply of oil, and speculation in the oil market. Tighter credit availability, the slowdown in economic activity as a result of the global financial and economic crises, and less speculation in the oil market were the reasons provided by the IEA for the significant drop in oil prices since mid-2008. Nevertheless, this downward trend did not continue during 2011 and the crude oil price increased by 79.9% on an average annual basis. During the same year, 2011, the average crude oil price surpassed the peak of US\$111.15 per barrel. According to the IEA (2013), the supply shortfalls during 2012, which were caused by the Libyan civil war, international sanctions against Iran and unplanned non-OPEC (Organization of the Petroleum Exporting Countries) output stoppages, forced the price past the 2008 peak.

The situation has improved in the levels of supply from the USA and Iraq, and includes some recovery in the Libyan supply during 2012. On the demand side, the global economic recovery lost momentum and there are signs that demand from China is reducing. During 2013, the crude oil price decreased by only 0.9%. In 2014, the price of crude oil experienced a significant decrease of 9.0%. The combination of robust world crude oil supply growth and weak global demand contributed to rising global inventories and falling crude oil prices. The influx of US oil meant that major exporters, including Saudi Arabia, Nigeria and Algeria, have had to compete for new markets. This led to producers being forced to discount prices in the new competitive landscape. World oil supply remained higher than world oil demand throughout 2015, after similar conditions started at the beginning of 2014. This led to further decreases in the oil price. Demand slowed down in Europe, China and the US. The crude oil price increased by 81.12% between 2002 and 2016. The crude oil price shows a decrease of 16.21% from 2015 to 2016. The value of crude oil was US\$45 per barrel in 2016.





#### Domestic fuel and transport costs

Fuel makes a significant contribution to the variable costs of primary agricultural production, as well as food distribution costs. The crude oil price and the 0.05% sulphur diesel price trends in Gauteng and at the coast between 2002 and 2016 are illustrated in **Figure 16**. The movement of the international oil price, taxes and levies, and instability of exchange rate affect the local price of diesel. From 2002 to 2016, the local prices of 0.05% sulphur diesel in Gauteng, 0.05% sulphur diesel at the coast, and crude oil (dollar per barrel) increased by 197.19%, 196.30% and 77.50%, respectively. The diesel price peaked in 2008, achieving an average price of R9.27/l, with R9.34/l in Gauteng and R9.20/l at the coast. The average diesel price, however, decreased significantly during 2009 (-29.47%). Over the same period, the crude oil price decreased by 36.65%. These peaks in the price of diesel were surpassed during 2013 and 2014 when the average diesel price amounted to R11.86/l and R12.55/l, respectively.

Price trends for the items depicted between 2015 and 2016 were as follows: the crude oil price decreased by 16.21%, 0.05% sulphur diesel at the coast decreased by 2.06%, and 0.05% sulphur diesel in Gauteng decreased by 1.23%.



#### Figure 16: Diesel prices in Gauteng and at the coast (2002–2016)

Source: South African Petroleum Industry Association (SAPIA) (2017) & Grain SA (2017)

Transport and logistical costs account for a substantial portion of the overall cost of food. The diverse nature, location and size of the various agricultural value chains from farm-gate to consumer present a highly complex transport matrix. Furthermore, there is a perception that food prices are driven up by high fuel prices, but never come down when fuel prices drop. Cognisance should be taken of the fact that there are also other cost drivers that affect transport and logistical costs.

Based on the National Freight Database (NFD), three vehicle categories were chosen to represent vehicles typically used to transport agricultural products and livestock. The NFD categorises vehicles by their number of axles. This method is similar to that applied in the calculation of toll road fees.

**Figure 17** illustrates the vehicle cost composition over time for different sized vehicles.<sup>1</sup> Fixed costs include depreciation, cost of capital, licences, insurance and wages. Running costs include fuel, oil, maintenance, tyres and incidental costs. The sum of the fixed and running costs is the total operational cost.



#### Figure 17: Vehicle costs over time for different sized vehicle (2007–2016)

 1 Assumptions:
 1 – 85 000 km per annum, 260 work days, 8-ton payload and estimated economical life of 8 years.

 2 – 180 000 km per annum, 286 work days, 28-ton payload and estimated economical life of 5 years.

 3 – 200 000 km per annum, 286 work days, 36-ton payload and estimated economical life of 4 years.



#### Source: FleetWatch (2017)

#### Table 8: Vehicle cost changes from 2007 to 2017

2-axle vehicles	6-axle vehicles	7-axle vehicles
Capital cost: 52.14%	Capital cost: 64.18%	Capital cost: 64.41%
Fixed cost: 86.87%	Fixed cost: 77.82%	Fixed cost: 85.78%
Running cost: 115.27%	Running cost: 143.12%	Running cost: 118.74%

Source: Own calculations based on FleetWatch (2017)

#### Energy

Eskom is not only the major energy supplier in South Africa, but also in Africa at large. Eskom generates approximately 95% of the electricity used in South Africa, and about 45% in Africa (Eskom, 2017). **Figure 18** illustrates the average prices (c/kWh) of electricity that Eskom transmits and distributes to industrial, mining, commercial, agricultural and residential customers and redistributors, compares with the average price at international level. Between 2003 and 2009/10, the average price (c/kWh) in the residential sector was expensive or highest, compared with other sectors. The residential sector utilised electricity at an average price of 36.58c/kWh in 2003, to 63.98c/kWh in 2009/10. During 2010/11, the agricultural sector overlapped the residential sector, after which the agricultural sector was the industry that purchased electricity at the highest price, until 2015/16. The agricultural sector utilised electricity at an average price of 128.19c/kWh in 2015/16.



#### Figure 18: Average price (c/kWh) of electricity sold to different sectors

**Figure 19** depicts the trend between the change in average price (levied by Eskom) and annual inflation rate between 2000 and 2016. There has been a fluctuation movement between the two variables, average price adjustment and annual inflation rate, under the reviewed period. From 2000 to 2007, the annual inflation rate and average price adjustments were both less than 10%. However, during 2008, the annual inflation rate increased by 11.5% and the average electricity price changed by 27.5%. In 2009, the annual inflation rate declined by 7.1%, while the average price continued to increase by 31.3%. The average price adjustment had been upwards from 2007 until 2016.



Figure 19: Eskom tariffs changes in percentage

Source: National Energy Regulator of South Africa (NERSA) (2017) & Stats SA (2017)

#### Labour

Promoting and creating quality jobs is regarded as one of the key priorities for the South African economy. **Figure 20** illustrates evidence of the regulated minimum wages for primary agriculture in South Africa. This minimum wage is revised during March each year. The minimum wage for farm workers in 2008 was recorded as R1 090/month. From 2012 to 2013, minimum wage has increased drastically by 51.2%. In 2016, the minimum wage was reported to be R2 778.83/month.





Source: Department of Labour (2017)



## INFLATIONARY TRENDS FOR SELECTED FOOD STUFFS



#### 4. INFLATIONARY TRENDS FOR SELECTED FOOD STUFFS

#### 4.1 Food and non-alcoholic beverages

Stats SA has changed the base year for calculating the Consumer Price Index (CPI) to December 2016. Following these changes, the average overall South African food and non-alcoholic beverages inflation rate for 2016 was 10.52%, compared with the average rate in 2015 of 5.11%. **Figure 21** presents the food and non-alcoholic beverage index and rate of change.





#### Source: Stats SA (2017)

The food inflation indices for the nine provinces of the country are shown in **Figure 22**. Provincially, the Limpopo province experienced the highest annual food inflation increase (8.4%), between December 2015 and December 2016. This was followed by the Eastern Cape (7.8%), KwaZulu-Natal (7.6%), and Free State (7.3%) provinces.



Figure 22: CPI for food and non-alcoholic beverages in the different provinces in South Africa

The indices for the different food CPI components are shown in **Figure 23**. It is evident that the sugar, sweets and desserts category shows the largest percentage increase (21.3%) from 2015 to 2016, followed by fruit (19.2%) and bread and cereals (17.4%). The lowest index was for the meat category (7.6%).



#### Figure 23: CPI for different food groups

#### Source: Stats SA (2017)

#### 4.2 Urban food price trends

This section provides insights pertaining to the average retail prices of specific food items in urban areas for 2016 and how they compared with the retail prices of the period from 2014 to 2016.

Selected retail prices for wheat products are shown in **Table 9**. On average, the retail price of wheat products increased by 9.82% between 2015 and 2016. The prices of a 700g loaf of brown bread increased by 11.03% and of a 700g loaf of white bread by 10.18%, respectively, during the same period.

Wheat Products		Price Level	Percentage Change		
	2014	2015	2016	2015– 2016	2014– 2015
Cake flour 1kg	11,51	12,17	12,37	1,67%	5,76%
Cake flour 2.5kg	22,62	22,63	26,14	15,48%	0,07%
Cake flour 5kg	45,80	47,55	54,29	14,18%	3,82%
Loaf of brown bread 600g	6,79	6,45	6,61	2,55%	-4,94%
Loaf of brown bread 700g	9,93	10,60	11,77	11,03%	6,81%
Loaf of brown bread 800g	12,71	13,27	14,66	10,42%	4,40%
Loaf of white bread 600g	7,58	7,26	7,69	5,84%	-4,11%

#### Table 9: Average annual retail prices for certain wheat products

Wheat Products		Price Level	Percentage Change		
	2014	2015	2016	2015– 2016	2014– 2015
Loaf of white bread 700g	11,11	11,77	12,97	10,18%	5,95%
Loaf of white bread 800g	9,52	10,50	11,74	11,80%	10,27%
Macaroni 500g	10,44	10,73	12,09	12,64%	2,83%
Spaghetti 500g	10,39	11,04	12,39	12,21%	6,32%
Average				9,82%	3,38%
Wheat (R/ton)	3 786,28	4 042,22	4 445,55	9,98%	6,76%

Source: Stats SA (2017)

Selected retail prices for maize products are shown in **Table 10**. On average, the retail price for 2.5kg special maize increased by 58.30% in 2016. The price of the 2.5kg super maize increased by 34.55%, during the same period.

#### Table 10: Average annual retail prices maize products

Maize Products		Price Level	Percentage Change		
	2014	2015	2016	2015– 2016	2014– 2015
Special maize 1kg	6,95	6,25	10,25	64,06%	-10,13%
Special maize 2.5kg	15,91	14,94	23,65	58,30%	-6,10%
Super maize 10kg	8,28	8,88	11,70	31,77%	7,16%
Super maize 2.5kg	18,27	19,95	26,85	34,55%	9,20%
Super maize 5kg	33,55	36,08	49,20	36,38%	7,56%
Average				45,01%	1,54%
Yellow maize (R/ton)	2 282,26	2 661,05	3 360,42	26,28%	16,60%
White maize (R/ton)	2 276,89	2 925,30	4 396,11	50,28%	28,48%

Source: Stats SA (2017)

**Table 11** shows the retail prices for oils and fats between 2014 and 2016. Margarine spread (500g) increased by 8.23% between 2015 and 2016, compared with the 8.73% increase in 2014–2015. Sunflower oil (750ml) increased by 21.88% during the same period.

Sunflower Products		Price Level	Percentage Change		
	2014	2015	2016	2015– 2016	2014– 2015
Brick margarine 125g	7,53	7,59	8,38	10,45%	0,85%
Brick margarine 1kg	36,96	39,26	41,37	5,36%	6,23%
Brick margarine 250g	11,97	12,01	13,37	11,35%	0,29%
Brick margarine 500g	17,92	19,61	21,52	9,75%	9,41%
Margarine spread 1kg	35,50	37,42	40,28	7,66%	5,39%
Margarine spread 500g	20,46	22,25	24,08	8,23%	8,73%
Sunflower oil 2l	34,27	34,85	45,86	31,60%	1,70%
Sunflower oil 500ml	12,56	13,56	16,58	22,27%	7,94%
Sunflower oil 750ml	17,42	18,45	22,48	21,88%	5,89%
Average				14,28%	5,16%
Sunflower seed (R/ton)	4 903,07	5 625,36	6 535,17	16,17%	14,73%
Source: Stats SA (2017)	1		1		1

#### Table 11: Average annual retail prices sunflower products

**Table 12** shows the retail prices for processed vegetables between 2014 and 2016. Tinned baked beans (225g) increased by 5.24% between 2015 and 2016. Sweet corn (410g) increased by 12.9% during the same period.

Processed Vegetables	-	Price Level	Percentage Change		
	2014	2015	2016	2015– 2016	2014– 2015
Baked beans - tinned 225g	7,01	7,58	7,98	5,24%	8,24%
Baked beans - tinned 410g	7,94	8,45	8,85	4,67%	6,45%
Sweet corn - tinned 410g	10,61	11,29	12,74	12,90%	6,40%
Sweet corn - tinned 415g	12,14	13,16	13,65	3,71%	8,36%
Sweet corn - tinned 420g	14,24	14,83	17,85	20,35%	4,14%
Average				9,37%	6,72%

#### Table 12: Average annual retail prices processed vegetables products

Source: Stats SA (2017)

**Table 13** shows the average retail prices for selected fresh vegetables. Potatoes (10kg) showed the largest price increase of 78.86%. The average retail prices of fresh cabbage (each) and onions per kg increased by 19.12% and 35.82%, respectively, between 2015 and 2016.

		Price Level	Percentage Change		
Fresh Vegetables	2014	2015	2016	2015– 2016	2014– 2015
Avocado - per kg*	13,58	17,97	23,36	30,04%	32,33%
Beetroot - fresh per kg	12,22	10,82	12,48	15,29%	-11,40%
Cabbage - fresh each	10,94	11,60	13,82	19,12%	6,01%
Cabbage - fresh per kg	11,47	11,13	11,38	2,21%	-2,89%
Carrots - fresh per kg	14,30	14,45	10,72	-25,79%	1,03%
Cauliflower - fresh per kg	40,01	41,75	28,58	-31,55%	4,35%
Onions - fresh per kg	10,53	9,92	13,47	35,82%	-5,81%
Potatoes - fresh 10kg	49,42	23,70	42,39	78,86%	-52,04%
Potatoes - fresh per kg	10,16	9,70	12,91	33,09%	-4,50%
Pumpkin - fresh per kg	16,48	16,68	12,09	-27,50%	1,20%
Spinach/Morogo - Fresh per kg	31,77	35.62	25.40	-28.69%	12.10%
Sweetcorn/Baby Corn/Mielies*	16,43	16.62	19.20	15.50%	1.17%
Sweet potatoes - fresh per kg	15,03	15.83	18.86	19.18%	5.30%
Tomatoes - fresh per kg	18,45	18.94	17.45	-7.87%	2.70%
Average				9.12%	-0.75%

#### Table 13: Average annual retail prices for certain food items in the vegetable group

#### Source: Stats SA (2017) and AC Nielsen\* (2017)

**Table 14** shows the retail prices of selected processed and unprocessed meat products from 2014 to 2016. On average, the retail prices for the different meat cuts increased by 5.4% between 2015 and 2016. The average retail price of beef chuck increased by 8.32% from 2015 (R65.20/kg) to 2016 (R70.62/kg). The average retail price of fresh chicken portions increased by 4.96% and frozen chicken portions decreased by 0.8%.

#### Table 14: Average annual retail prices for certain items of processed and unprocessed meat

Processed & Unprocessed Meat		Price Level	Percentage Change		
	2014	2015	2016	2015-2016	2014-2015
Bacon 250g	114,64	126,19	101,57	-19,51%	10,07%
Polony per kg	32,70	35,45	39,31	10,88%	8,43%
Beef brisket - fresh per kg	60,74	64,03	69,10	7,92%	5,43%
Beef chuck - fresh per kg	62,01	65,20	70,62	8,32%	5,14%
Beef mince - fresh per kg	64,44	66,60	69,01	3,63%	3,34%
Beef rump steak - fresh per kg	102,54	107,10	114,70	7,10%	4,44%
Beef T-bone - fresh per kg	79,56	82,43	87,83	6,55%	3,61%
Chicken portions - fresh per kg	48,03	51,21	53,75	4,96%	6,61%

Processed & Unprocessed Meat		Price Level	Percentage Change		
	2014	2015	2016	2015-2016	2014-2015
Chicken portions - frozen average per kg	27,24	28,98	28,75	-0,80%	6,41%
Lamb - fresh per kg	101,84	111,06	122,07	9,91%	9,05%
Lamb - leg per kg	96,06	104,20	115,20	10,55%	8,48%
Lamb - loin chop per kg	111,38	121,51	131,62	8,32%	9,09%
Lamb - neck per kg	83,89	88,22	93,86	6,39%	5,16%
Lamb - rib chop per kg	104,86	113,50	126,46	11,42%	8,24%
Lamb - saddle chop per kg	106,33	117,54	128,94	9,70%	10,54%
Pork - ribs per kg	66,55	71,19	73,53	3,29%	6,98%
Pork chops - fresh per kg	64,33	70,04	71,43	1,98%	8,88%
Whole chicken - fresh per kg	37,71	39,56	41,83	5,74%	4,92%
Average				5,35%	6,93%

Source: Stats SA (2017)

**Table 15** below indicates that all the retail prices of eggs and dairy products increased between 2014 and 2016, with 0.5 dozen eggs showing the largest annual increase of 12.58%. It is also evident that, when comparing 2016 retail prices with those of 2015, many dairy items had increased in price, with the exception of cheddar cheese per kg.

Francisco de Decimo Dura dura ta		Price Level	Percentage Change		
Eggs and Dairy Products	2014	2015	2016	2015-2016	2014-2015
Cheddar cheese per kg	111,87	119,52	98,75	-17,38%	6,84%
Eggs 0.5 dozen	11,02	12,82	14,44	12,58%	16,39%
Eggs 1,5 dozen	32,35	34,65	36,91	6,50%	7,14%
Eggs 2.5 dozen	42,95	44,91	49,09	9,31%	4,57%
Full cream milk - fresh 1l	11,35	12,13	12,96	6,87%	6,90%
Full cream milk - fresh 2l	22,13	23,29	25,00	7,34%	5,23%
Full cream milk - fresh 500ml	8,21	8,74	9,51	8,76%	6,46%
Full cream milk - long life 1l	11,98	12,77	13,43	5,19%	6,56%
Full cream milk - long life 500ml	7,96	8,35	8,80	5,39%	4,95%
Low fat milk - fresh 1l	12,48	13,38	14,36	7,32%	7,15%
Low fat milk - long life 1l	12,06	12,68	13,30	4,90%	5,16%
Powdered milk 250g	34,85	36,03	37,88	5,14%	3,38%
Powdered milk 400g	52,75	55,37	60,71	9,65%	4,97%
Powdered milk 500g	49,33	51,78	54,18	4,63%	4,97%
Powdered milk 900g	116,38	122,21	130,59	6,86%	5,01%
Average				5,54%	6,38%

#### Table 15: Average annual retail prices for certain food items in the eggs and dairy group

Source: Stats SA (2017)

As shown in **Table 16**, the average retail prices of apples and bananas increased by 4.72% and 11.14%, respectively, between 2015 and 2016. The retail price of oranges increased by 100.08% between 2015 and 2016.

Table 16	: Average	annual	retail	prices	for	fruit
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Fruits		Price Level	Percentage Change		
	2014	2015	2016	2015- 2016	2014- 2015
Apples - fresh per kg	15,86	16,80	17,59	4,72%	5,94%
Bananas - fresh per kg	11,89	12,76	14,18	11,14%	7,32%
Grapes - per kg*	27,33	28,88	30,52	5,70%	5,66%
Mango - per kg*	15,21	18,38	16,19	-11,92%	20,81%
Oranges - fresh per kg	7,49	8,37	16,75	100,08%	11,74%
Peaches - per kg*	20,52	20,99	24,04	14,50%	2,29%
Pears - per kg*	15,67	16,19	18,20	12,37%	3,32%
Pineapples - per kg*	12,09	14,27	19,52	36,83%	18,03%
Plum - per kg*	17,96	21,07	21,69	2,97%	17,26%
Watermelon - per kg*	25,46	27,95	30,74	9,97%	9,76%
Average				18,64%	10,21%

Source: Stats SA (2017) and AC Nielsen\* (2017)

The prices of selected fish products for 2014–2016 are presented in **Table 17**. The retail prices of tinned fish (excluding tuna) for 215g and 425g increased by 13.78% and 8.34%, respectively. The average retail price of tinned tuna (170g) increased by 2.81% during the same period.

		Price Level	Percentage Change		
Fish Products	2014	2015	2016	2015- 2016	2014- 2015
Fish (excl. tuna) - tinned 155g	7,80	9,13	9,95	8,98%	16,98%
Fish (excl. tuna) - tinned 215g	10,32	11,35	12,91	13,78%	9,95%
Fish (excl. tuna) - tinned 400g	15,34	16,23	17,28	6,44%	5,80%
Fish (excl. tuna) - tinned 425g	13,81	15,08	16,34	8,34%	9,23%
Tuna - tinned 170g	15,79	15,76	16,20	2,81%	-0,19%
Average				8,07%	8,35%

Table 17: Average annual retail prices for certain food items in the fish group

#### Source: Stats SA (2017)

Various other products are shown in **Table 18**. The average retail prices of 1kg and 5kg of white sugar increased by 13.23% and 19.78%, respectively, between 2015 and 2016. When comparing sugar prices

between 2014 and 2015, increases of 6.75% and 8.22% were reported for 1kg and 5kg of white sugar, respectively. The retail prices of 750g of instant coffee increased by 11.93% between 2015 and 2016, compared with the 4% in 2014–2015. The retail prices of 62.5g and 250g Ceylon/black tea increased by 18.39% and 16.63%, respectively, during the same period.

	Price Level			Percentage Change		
Other Products	2014	2015	2016	2015- 2016	2014- 2015	
Cold Cereals 375g	30,97	30,52	32,52	6,55%	-1,45%	
Cold Cereals 400g	32,23	31,10	31,19	0,28%	-3,52%	
Cold Cereals 450g	22,27	22,84	25,57	11,92%	2,56%	
Cold Cereals 500g	28,60	29,10	30,77	5,76%	1,76%	
Cold Cereals 750g	37,32	39,37	42,53	8,03%	5,51%	
Ceylon/black tea 125g	15,33	18,10	23,55	30,13%	18,07%	
Ceylon/black tea 250g	22,22	23,90	27,88	16,63%	7,57%	
Ceylon/black tea 500g	41,77	44,33	50,50	13,90%	6,15%	
Ceylon/black tea 62.5g	8,97	10,45	12,37	18,39%	16,53%	
Instant coffee 100g	20,88	25,75	27,73	7,68%	23,32%	
Instant coffee 200g	58,58	67,16	74,13	10,38%	14,65%	
Instant coffee 250g	29,84	30,57	33,72	10,30%	2,47%	
Instant coffee 500g	44,65	46,28	48,48	4,76%	3,63%	
Instant coffee 750g	67,29	69,98	78,33	11,93%	4,00%	
Peanut butter 400g	22,78	22,74	24,77	8,92%	-0,19%	
Peanut butter 800g	43,13	43,34	47,05	8,56%	0,48%	
Rice 10kg	102,72	110,40	111,10	0,63%	7,48%	
Rice 1kg	14,93	16,03	17,20	7,30%	7,39%	
Rice 2kg	23,01	23,49	25,15	7,05%	2,10%	
Rice 500g	7,40	7,62	7,96	4,38%	3,00%	
Rice 5kg	56,02	58,74	63,43	7,98%	4,86%	
White sugar 10kg	104,90	112,57	139,10	23,56%	7,31%	
White sugar 1kg	13,51	14,42	16,33	13,23%	6,75%	
White sugar 2.5kg	26,25	27,98	33,49	19,71%	6,60%	
White sugar 250g	4,49	4,46	5,02	12,53%	-0,48%	
White sugar 2kg	20,04	22,08	26,39	19,49%	10,20%	
White sugar 500g	7,14	7,75	9,03	16,56%	8,52%	
White sugar 5kg	53,98	58,42	69,97	19,78%	8,22%	
Average				11,65%	6,20%	

#### Table 18: Average annual retail prices for certain other food items

Source: Stats SA (2017)

#### 4.3 Rural food price trends

This section provides insight into the average prices of specific food items in rural areas for 2016 and how they compare with the prices during 2015.

**Table 19** shows that in 2016, consumers in rural areas paid 10.2% more, on average, for a loaf of brown bread (700g) and 9.84% more for a loaf of white bread (700g) than they did in 2015.

Wheat Broducts	Price	e Level	Percentage Change	
wheat Floducts	2015	2016	2015-2016	
Loaf of white bread 600g	8,74	9,54	9,21%	
Loaf of white bread 700g	9,98	11,00	10,20%	
Loaf of brown bread 600g	8,95	9,97	11,45%	
Loaf of brown bread 700g	10,94	12,02	9,84%	
Average			10,17%	
Source: Stats SA (2017)				

Table 19: Average annual retail prices for wheat products in rural areas

# Selected rural retail prices for maize products are shown in **Table 20**. On average, the rural retail price for 2.5kg special maize increased by 47.44% between 2015 and 2016. The price of the 2.5kg super maize increased by 28.93% during the same period.

Table 20: Average annual	retail prices	for maize	products in	rural areas
Table 20. Average annua	i retait prices	IOI IIIaize	products in	i ui al al cas

Maiza Droducta	Price	e Level	Percentage Change	
	2015	2016	2015-2016	
Special maize 1kg	6,71	9,84	46,59%	
Special maize 2.5kg	15,29	22,54	47,44%	
Special maize 5kg	29,34	41,76	42,33%	
Super maize 1kg	9,15	11,47	25,37%	
Super maize 2.5kg	19,76	25,48	28,93%	
Super maize 5kg	35,21	48,01	36,33%	
Average			37,83%	

Source: Stats SA (2017)

The average prices in rural areas of 750ml of sunflower oil and 500g of margarine increased by 17.3% and 6.41%, respectively, while the price of 500g brick margarine increased by 13.25% between 2015 and 2016 (**Table 21**).

Table 21: Average annua	retail prices for	oils and fats in rura	l areas
-------------------------	-------------------	-----------------------	---------

Cuefferrer Droducte	Price	e Level	Percentage Change	
Sunnower Products	2015	2016	2015-2016	
Brick margarine 125g	8,36	8,78	5,08%	
Brick margarine 250g	12,18	13,57	11,36%	
Brick margarine 500g	19,13	21,66	13,25%	
Margarine 1kg	34,64	39,06	12,75%	
Margarine 125g	8,06	9,09	12,83%	
Margarine 250g	11,84	12,03	1,60%	
Margarine 500g	19,44	20,69	6,41%	
Sunflower oil 2l	33,75	42,14	24,83%	
Sunflower oil 500ml	12,47	13,94	11,80%	
Sunflower oil 750ml	15,26	17,90	17,30%	
Average			11,72%	

Source: Stats SA (2017)

Consumers in rural areas paid 6.33% and 3.31% more, respectively, for full-cream fresh (11) and full cream long-life (11) milk. The price of half a dozen eggs increased by 4.29% between 2015 and 2016 (**Table 22**).

Table 22: Average annua	l retail pr	rices for (	dairv r	products in	n rural	areas
Tuble LE. / Weruge annia	i i ctait pi	11000 101		nounces in	I I MI MI	aicas

Deim-Dus du sta	Price	e Level	Percentage Change	
Dairy Products	2015	2016	2015-2016	
Eggs 1/2 dozen	8,66	9,03	4,29%	
Full cream milk - fresh 1l	12,00	12,76	6,33%	
Full cream milk - fresh 2l	24,03	25,51	6,16%	
Full cream milk - fresh 500ml	8,72	9,21	5,59%	
Full cream milk - long life 1l	13,54	13,99	3,31%	
Full cream milk - long life 500ml	9,45	9,94	5,18%	
Low fat milk - fresh 1l	13,37	15,00	12,20%	
Low fat milk - fresh 2l	24,55	26,51	7,99%	
Average			6,38%	

Source: Stats SA (2017)

**Table 23** shows the prices of tag-less tea bags and instant coffee paid by consumers in rural areas for the period 2015–2016. On average, the price of 250g of Ceylon/black tea increased by 11.17%. The price of instant coffee (750g) increased by 12.33%.

#### Table 23: Average annual retail prices for tea and coffee in rural areas

Top and Coffee	Price	e Level	Percentage Change	
	2015	2016	2015-2016	
Ceylon/black tea 125g	14,79	17,61	19,06%	
Ceylon/black tea 200g	18,18	22,37	23,07%	
Ceylon/black tea 250g	24,43	27,16	11,17%	
Ceylon/black tea 62.5g	9,74	11,22	15,24%	
Instant Coffee 100g	16,70	17,73	6,15%	
Instant Coffee 250g	32,52	35,27	8,48%	
Instant Coffee 750g	69,98	78,61	12,33%	
Average			13,64%	

#### Source: Stats SA (2017)

The price paid by rural consumers for dried beans continued to increase. **Table 24** shows the average retail prices of dried beans paid by consumers in rural areas in 2015–2016. The price of 1kg dried beans increased by 12.82% during the depicted period.

#### Table 24: Average annual retail prices for beans in rural areas

Deeme	Price	Level	Percentage Change	
Beans	2015	2016	2015-2016	
Beans Dried 1kg	26,81	30,25	12,82%	
Beans Dried 2kg	47,09	53,05	12,66%	
Beans Dried 500g	14,88	16,14	8,42%	
Average			11,30%	

#### Source: Stats SA (2017)

The retail prices of sugar in the rural areas showed increases of 14.54%, 15.28% and 18.47% for 1kg, 2.5kg and 500g of white sugar, respectively, between 2015 and 2016 (**Table 25**).

Table 25: Average	annual retai	prices of	f sugar in	rural areas
Table 23. Average	annuarictai	i prices or	sugai m	i ui ui ui cus

Sugar	Price Level		Percentage Change
	2015	2016	2015-2016
White sugar 1kg	14,25	16,32	14,54%
White sugar 2.5kg	31,71	36,56	15,28%
White sugar 500g	69,90	82,81	18,47%
Average			16,10%

#### Source: Stats SA (2017)

The retail prices of meat and fish in the rural areas showed increases of 6.14%, 10.46% and 3.13% for beef chuck per kg, frozen chicken portions per kg, and tinned fish (excl. tuna) 425g, respectively, between 2015 and 2016 (**Table 26**).

Meat and Fish	Price Level		Percentage Change
	2015	2016	2015-2016
Beef brisket - fresh per kg	62,91	68,31	8,58%
Beef chuck - fresh per kg	64,58	68,54	6,14%
Beef fillet - fresh per kg	118,32	127,72	7,95%
Beef rump steak -fresh per kg	92,26	98,25	6,49%
Beef T-bone - fresh per kg	76,94	84,19	9,42%
Chicken portions - fresh per kg	10,25	11,71	14,23%
Chicken portions - fresh 2kg	55,00	57,55	4,63%
Chicken portions - frozen per kg	18,97	20,96	10,46%
Chicken portions - frozen 2kg	50,35	50,63	0,57%
Fish (excl. tuna) - tinned 155g	8,74	10,15	16,14%
Fish (excl. tuna) - tinned 425g	16,00	16,50	3,13%
Average			7,98%

#### Table 26: Average annual retail prices of meat and fish in rural areas

#### Source: Stats SA (2017)

On average, the rural retail price of various rice packages increased by 5.33% between 2015 and 2016 (**Table 27**).

#### Table 27: Average annual retail prices of rice in rural areas

Rice	Price Level		Percentage Change
	2015	2016	2015-2016
Rice 1kg	14,22	14,97	5,29%
Rice 2kg	23,72	25,03	5,55%
Rice 500g	7,81	8,21	5,14%
Average			5,33%

#### Source: Stats SA (2017)

On average, the rural retail price of peanut butter (270g) increased by 7.64% between 2015 and 2016 (**Table 28**).

#### Table 28: Average annual retail prices of peanut butter in rural areas

Peanut Butter	Price Level		Percentage Change
	2015	2016	2015-2016
Peanut butter 270g	18,93	20,38	7,64%
Peanut butter 400g	24,26	25,90	6,77%
Peanut butter 800g	41,68	45,80	9,90%
Average			8,10%

#### Source: Stats SA (2017)

**Table 29** shows that the average rural retail price of sorghum meal increased by 8.85% between 2015 and 2016.

#### Table 29: Average annual retail prices of sorghum meal in rural areas

Sorghum Meal	Price Level		Percentage Change
	2015	2016	2015-2016
Sorghum meal (e.g. Mabella) 1kg	14,77	16,08	8,85%
Average			8,85%

Source: Stats SA (2017)

As shown in **Table 30**, the average retail prices of fresh apples and bananas increased by 13.73% and 35.16%, respectively, between 2015 and 2016. The retail prices of fresh potatoes and onions increased by 30.35% and 27.12%, respectively, between 2015 and 2015.

#### Table 30: Average annual retail prices for fruit and vegetables in rural areas

Fruit and Vegetables	Price Level		Percentage Change
	2015	2016	2015-2016
Apples - fresh per kg	14,90	16,94	13,73%
Bananas - fresh per kg	10,39	14,04	35,16%
Onions - fresh per kg	9,57	12,16	27,12%
Oranges - fresh per kg	11,40	14,91	30,78%
Potatoes - fresh per kg	9,84	12,83	30,35%
Potatoes - fresh 10kg	46,35	66,41	43,27%
Tomatoes - fresh per kg	16,76	18,01	7,44%
Average			26,84%

Source: Stats SA (2017)

#### 4.4 Comparison between rural and urban food prices

**Figure 24** compares urban and rural prices from 2015 to 2016. On average, the cost of an urban food basket was higher than that of the rural food basket. This basket consists of: full-cream milk – long life (11), a loaf of brown bread (700g), a loaf of white bread (700g), special maize meal (2.5kg), super maize meal (2.5kg), margarine spread (500g), peanut butter (400g), rice (2kg), sunflower oil (750ml), Ceylon/ black tea (62.5g), and white sugar (2.5kg).

In December 2016, the urban basket cost R244.91, compared with the rural basket of R234.57. During December 2015, these costs were R202.16 and R197.88, respectively.





Source: Stats SA (2017)

# **Part 5** TRENDS IN PRICES, FARM VALUES AND PRICE STANDS



### 5. TRENDS IN PRICES, FARM VALUES AND PRICE SPREADS

#### 5.1 Introduction

This section provides an overview of the price trends in selected food value chains. Where information is available, international trends are also discussed. This section also provides more detail on the different cost components that contribute to the margin between farm-gate prices and the price the consumer pays for selected food items. One way to investigate this is to look at the farm values of selected products and the Farm-to-Retail-Price-Spread (FTRPS) of various industries.

The margin between farm-gate prices and the price the consumer pays for selected food items is a topic that is frequently debated. In order to better understand the difference between farm-gate and retail prices, farm values of selected products and the FTRPS were calculated. The farm value share is the value of the farm product's equivalent in the final food product purchased by the consumer. The FTRPS is the difference between what the consumer pays for the food product at retail level and the value of the farm product used in that product. Price spread measures the aggregate contributions of food manufacturing, distribution, wholesale and retail firms that transform farm commodities into final products.

#### 5.2 Price trends in the meat sector

#### 5.2.1 Poultry industry

**Figure 25** shows the FAO Poultry Meat Price Index, Brazil, export values for chicken, and the USA export unit values of broiler cuts. According to the FAO, the Poultry Meat Price Index decreased by 7.14% between 2015 and 2016.







The retail prices for selected poultry products are shown in **Figure 26**. The annual average retail price of frozen chicken portions decreased by 0.80% between 2015 and 2016, while the retail prices of fresh whole chickens and fresh chicken portions increased by 5.74% and 4.96%, respectively, between 2015 and 2016.

Retail prices in real terms showed a decreasing trend for poultry. In real terms, the annual retail price for frozen chicken portions decreased by 6.94%, while fresh chicken portions and fresh whole chickens decreased slightly by 1.53%, and 0.80%, respectively, between 2015 and 2016.



### Figure 26: Poultry retail price trends

#### Source: Stats SA (2017)

**Figure 27** shows the trends in the producer prices for poultry. The annual average producer price of fresh chicken increased by 0.22% (from R22.43/kg in 2015 to R22.48/kg in 2016). The annual average producer price of frozen chicken increased by 0.55% (from R21.45/kg to R21.57/kg) during the period under review. Compared with 2010 price levels, the 2016 annual average prices of frozen and fresh chicken increased by 48.98% and 18.56%, respectively.

In real terms, fresh and frozen chicken producer prices decreased by 6.04% and 5.72%, respectively, between 2015 and 2016. When compared with 2010, the real producer price of frozen chicken increased by 7.34%, while that for fresh chicken decreased by 14.62%.





#### Source: AMT (2017)

The real FTRPS and farm value share of fresh whole chickens are shown in **Figure 28**. The real FTRPS of fresh whole chickens increased by 6.06%, on average, between 2015 and 2016. During the same period, the farm value share of fresh whole chicken decreased by 5.25%. The average farm value share for fresh whole chicken per kg in 2016 was 53.74%.



#### Figure 28: Real FTRPS and farm value share of poultry

Source: Stats SA (2017), AMT (2017) and own calculations

#### 5.2.2 Beef

**Figure 29** shows the international beef price trends. According to the FAO Bovine Meat Price Index, the annual average international beef price decreased by 10.33% between 2015 and 2016. When comparing the figures for 2014 and 2015, the annual average international beef price decreased by 7.77%.





#### Source: FAO (2017)

The retail price of beef continued to increase throughout 2015 and 2016, with some slight declines during various months (see **Figure 30**). The average annual retail prices for chuck, brisket, rump steak, T-bone and mince increased by 8.32%, 7.92%, 7.10%, 6.55% and 3.63%, respectively, between 2015 and 2016.

In real terms, the average annual retail prices for chuck, brisket and rump steak increased by 1.63%, 1.25% and 0.48%, respectively, between 2015 and 2016. The other cuts decreased by 2.77% and 0.03% for mince and T-bone, respectively, between 2015 and 2016.



Figure 30: Retail price trends for different beef cuts

The producer prices for the different classes of beef are shown in **Figure 31**. The annual average producer price of beef class C2/C3 increased by 14.12% between 2015 and 2015, while those of classes B2/B3 and A2/A3 increased by 12.46% and 10.33%, respectively, during the same period. In real terms, beef producer prices showed an increasing trend. The annual average real producer price of classes C2/C3, B2/B3 and A2/A3 increased by 7.02%, 5.50% and 3.52%, respectively, between 2015 and 2016.





The real FTRPS and the farm value share for beef are shown in **Figure 32** below. The average real FTRPS of beef increased by 0.79% between 2015 and 2016, and reached R26.77 in December 2016. The farm value share of beef decreased by 0.62% between 2015 and 2016. The farm value share of beef was 59.09% in December 2016.

#### 37 62 Real FTRPS (R/kg) Farm value share (%) 35 60 33 57 31 55 29 53 50 27 25 48 Jun-10 Sep-10 Jun-12 Mar-13 Jun-13 Sep-15 Sep-16 Sep-14 Mar-10 Mar-12 Dec-13 Dec-15 Mar-16 Jun-16 Dec-16 Jun-11 Sep-12 Dec-12 Sep-13 Mar-14 Mar-15 Jun-15 Dec-10 Mar-11 Sep-11 Dec-11 Jun-14 Dec-14

Real farm value share

Figure 32: Real FTRPS and farm value share for beef

Source: Stats SA (2017), AMT (2017), and own calculations

Real farm-to-retail-price-spread

#### 5.2.3 Lamb

The international lamb prices continued their upward trend during 2014, after some declines during 2012 and 2013 (**Figure 33**). This upward trend was short lived, with a noticeable decline during 2015 and 2016. According to the FAO Ovine Meat Price Index, the average annual international lamb price decreased by 1.91% between 2015 and 2016.



#### Figure 33: International lamb price trends

Source: FAO (2017)

The domestic retail prices for lamb cuts showed an increase during 2014, after a decline during 2013, to continue the long-term, increasing trend (**Figure 34**). These increases continued during 2015 and 2016. The average annual retail prices for rib chops, lamb leg, saddle chops, loin chops and lamb neck increased by 11.42%, 10.55%, 9.70%, 8.32% and 6.44%, respectively, between 2015 and 2016.

In real terms, the average annual retail prices for rib chops, lamb leg, saddle chops and loin chops increased by 4.53%, 3.72%, 2.90% and 1.63%, respectively, between 2015 and 2016. Lamb neck decreased by 0.14% between 2015 and 2016.



#### Figure 34: Lamb retail price trends

**Figure 35** shows that the producer prices for the different lamb classes continued with an increasing trend during 2015 and 2016, after a noticeable decline during 2012 and 2013. The average producer price of class B2/B3 increased by 15.06% between 2015 (R41.84/kg) and 2016 (R48.14/kg). The annual average producer prices for class C2/C3 and class A2/A3 increased by 10.36% and 8.34%, respectively, between 2015 and 2016.



#### Figure 35: Lamb producer price trends

#### Source: AMT (2017)

The real FTRPS and the farm value share of lamb are depicted in **Figure 36.** The real FTRPS of lamb increased by 26.80% between 2015 and 2016 and was R5.18, on average, during 2016. The real farm value share of lamb decreased by 1.50% between 2015 and 2016. The farm value share of lamb was 92.17%, on average, during 2016.





Source: Stats SA (2017), AMT (2017) and own calculations

#### 5.2.4 Pork

According to the FAO Pig Meat Price Index, annual average international pork prices decreased by 2.38% between 2015 and 2016 (**Figure 37**). The annual average USA frozen pork price decreased by 5.90% between 2015 and 2016.





#### Source: FAO (2017)

**Figure 38** shows the retail price trends of fresh pork chops. The retail price of pork chops increased by 1.98% between 2015 (R70.04/kg) and 2016 (R71.43/kg). In real terms, the average retail price of pork chops increased by 28.03% during the period under review.



#### Figure 38: Pork retail price trends

Source: Stats SA (2017)

**Figure 39** show that the producer prices of porkers and baconers experienced much more volatility since the end of 2011. The annual average producer prices of baconers and porkers increased by 6.40% and 3.81%, respectively, between 2015 and 2016. During 2016, the annual average real producer prices decreased by 2.73% and 0.29% for porkers and baconers, respectively.



#### Figure 39: Pork producer price trends

#### Source: AMT (2017)

**Figure 40** shows the real FTRPS and farm value share of pork chops. The average real FTRPS decreased from R461.24 in 2015 to R437.12 in 2016 (-5.23%). The real farm value increased by 1.78%, on average, between 2015 and 2016 and was 35.46%, on average, during 2016.



Figure 40: Real FTRPS and farm value share of pork

Source: Stats SA (2017), AMT (2017), and own calculations

#### 5.3 Price trends in the dairy sector

#### 5.3.1 Milk

**Figure 41** shows the trends in the raw milk price and retail values for fresh full cream (11) and fresh low-fat milk (11) between January 2012 and December 2016. The average retail prices in 2016 were R12.96/l and R14.36/l for fresh full cream (11) and fresh low-fat milk (11), respectively. Compared with 2015, fresh full cream milk (11) and fresh low-fat milk (11) prices were, on average, R12.13/l and R13.38/l, respectively. Between 2015 and 2016, the prices therefore increased, on average, by 6.87% for fresh full cream (11) and by 7.32% for fresh low-fat milk (11). The average calculated raw milk price (using data from the South African Milk Processors Organisation (SAMPRO) and the Milk Producers Organisation (MPO)) increased from R4.15/l to R4.59/l (+10.51%) between 2015 and 2016.



Figure 41: Raw milk price and the retail values for full cream and low-fat milk, sachets

In order to explain the relationship between the raw milk price and packaged, standardised pasteurised milk, a high number of assumptions should be made regarding factors such as the fat content of milk produced in South Africa, the price of cream, the production, packaging, administration, marketing and management cost of cream, and the quantity of each fat class of milk (fat free, low fat and full cream) sold (SAMPRO, 2010). Due to the complex nature, process and the number of assumptions that should be addressed, the rest of this section will only discuss the farm value share and price spread between full cream milk and the retail price of milk.

**Figure 42** shows the farm value share as a percentage of the real retail value for fresh full cream milk (11), between January 2012 and December 2016. In 2012, the average real farm value share of fresh full cream (11) was 37.39%. The real farm value share for fresh full cream milk (11) decreased to reach its lowest level of 27.92% in August 2015, after a peak of 43.21% in December 2013. In December 2016, the real farm value share for fresh full cream milk (11) reached 34.73%. The average real farm value share for fresh full cream milk (11) reached 34.73%. The average real farm value share for fresh full cream milk (11) reached 34.73%. The average real farm value share for fresh full cream milk (11) ncreased from 34.25% to 35.42% (+3.41%) between 2015 and 2016.

Sources: Stats SA (2017), MPO (2017), SAMPRO (2017) and own calculations



#### Figure 42: Real farm value shares for full cream milk, sachets



**Figure 43** shows the trend in the real FTRPS for fresh full cream milk (11) between January 2012 and December 2016. In January 2012, the spread was R7.08/l, reaching a peak of R9.49/l in August 2015. The average real FTRPS decreased from R8.69/l to R8.56/l (-1.52%) between 2015 and 2016.





Real farm-to-retail-price-spread Sources: Stats SA (2017), MPO (2017), SAMPRO (2017) and own calculations

In order to explain the FTRPS for dairy, a simplified diagram was constructed illustrating the activities in the dairy value chain required to deliver fresh milk to the consumer. Four main activities were identified, all of which require a diverse set of resources and inputs:

- a) Human resources are required, capable of conducting diverse activities;
- b) Capital equipment requirements, such as transport, production, packaging, cooling and testing equipment;
- c) Electricity requirements for temperature control from producer to consumer level; and

d) Packaging material requirements (plastic, carton, multilayer composite material).

The main activities required to deliver fresh milk to the consumer are depicted in **Diagram 1**.

## Diagram 1: Typical activities include actions from raw milk at the raw milk production unit to packaged pasteurised milk offered for sale in a retail outlet

Action 1: Collection of raw milk at raw milk production unit and delivery to processing plant

- Raw milk procurement management and administration;
- Raw milk tests at raw milk production unit;
- Raw milk pumped into container of transport vehicle;
- Transport of raw milk to processing plant;
- Testing of milk at processing plant;
- Pumping of milk from transport vehicle to bulk tank, including filtering;
- During all these actions, the milk must be kept cooled at 4°C.

#### **Action 2: Processing and packaging**

- Production management and administration;
- Quality assurance;
- Heating of milk to approximately 60°C;
- Standardisation of milk;
- Homogenisation of milk;
- Pasteurisation;
- Cooling of pasteurised milk to 4°C;
- Packing of milk in containers suitable for retail sale;
- Packing of individual containers in crates;
- Crates moved to storage area;
- After pasteurisation, the milk must be kept cooled at 4°C.

#### Action 3: Marketing and distribution

- Marketing management and administration;
- Logistics management and administration;
- Products packed according to orders (milk is ordered in different packaging sizes, different types of packaging, and different classes according to fat content);
- Loading of transport vehicles;
- Transport to retail shops;
- Packaging of products on retail shelves;
- Removal of damaged and outdated products;
- Collection of empty crates;
- During all these actions, the milk must be kept at 4°C

#### Action 4: Retailing

At retail level, milk must be kept at 4°C.

Source: SAMPRO, 2010

In order to get a better understanding of the margins and costs in the fresh milk dairy value chain, industry stakeholders were consulted with regard to the off-farm value chain, which included the office of SAMPRO. Two different scenarios were constructed to explain the costs and margins in the fresh milk dairy value chain, as applicable to full cream pasteurised milk in a 2l container, namely:

#### (i) A low value-added scenario:

- Raw milk close to processing plant;
- Less complex technology;
- Cheaper type and size of packaging;
- Direct surroundings of distribution; and
- Limiting marketing and advertising costs.

#### (ii) A high value-added scenario:

- Raw milk farther away from processing plant;
- More complex technology;
- Type and size of packaging more expensive;
- Distribution to farther outlets; and
- Marketing and advertising costs.

It should be noted that the typical contribution of each value-adding activity to the retail selling price of full cream pasteurised milk in a 2l container will differ from firm to firm, from region to region, from one to another type and size of packaging, and from season to season. Information revealed by a number of highly experienced and informed milk processors was requested to indicate what they regard as typical low- and high-cost scenarios in South Africa for each of the value-adding activities. **Table 31** and **Table 32** show the distribution costs and margins along the fresh milk dairy value chain, per action, for both a low- and a high-cost scenario.

From **Table 31** and **Table 32**, it is evident that in January 2017 the raw milk price contributed between 36.4% and 40.2% of the total selling price to the consumer, whereas in January 2016 it contributed between 33.6% and 36.2%. The raw milk price for the low-cost scenario in January 2017 was R9.60/2l container, compared with the R7.00/2l in January 2016. This shows an increased growth rate of 37.1%. The raw milk price for the high-cost scenario was R10.50/2l in January 2017, compared with R9.00/2l in January 2016 (+16.7%).

Action 1 comprises the raw milk collection and transportation to the processing plant in both the lowand high-cost scenarios, contributing between 4.7% and 5.0% to the total selling price that consumers paid in January 2017. Action 2 (the sum thereof) contributed between 19.6% and 21.5%, while Action 3 (excluding the selling price to the retailer) contributed a significant proportion, of between 21.7% and 23.6% in total, to the selling price consumers paid in January 2017.

When considering the individual items of the actions mentioned above for January 2017, the marketing and distribution by the milk processor (part of **Action 3**) contributed the greatest proportions of 14.2%
and 14.9% of the selling price. The retailer mark-up (part of **Action 4**) constituted approximately 13.4% to 13.9% of the difference between the price the consumer pays and the price at which the retailer procures the milk. This spread includes all costs, e.g. electricity, labour, and distribution costs, at retail level. Container (2l plastic or gable top) costs contribute the third highest proportion to the selling price. Between January 2016 and January 2017, the growth of the low- and high-cost scenarios for the selling price to the consumer varied between 7.6% and 23.5%.

Table 31: Typical cost composition of pasteurised full-cream milk in 2l containers offered for sale in a retail store – low-cost scenario<sup>1</sup>

	Low	cost		Low	cost	Low	cost	Low	cost	Low	cost
	Jan	-17	Jan-17 vs Jan-16	Jan	-16	Jan	-15	Jan	-14	Jan	-13
Item	R/2I	% of selling price	%	R/2l	% of selling price	R/2I	% of selling price	R/21	% of selling price	R/21	% of selling price
Raw milk price (21)	9,60	40,2	37,1%	7.00	36.2	8.80	41.6	7.60	40.1	6.80	38.9
Action 1											
Raw milk collection and transport to processing plant	1,20	5,0	26,3%	0.95	4.9	0.92	4.3	0.85	4.5	0.75	4.3
Action 2:											
Processing and quality assurance	2,10	8,8	10,5%	1.90	9.8	1.85	8.7	1.70	0.6	1.60	9.1
Container (21 plastic or 21 gable :op)	2,40	10,0	9,1%	2.20	11.4	1.90	0.6	1.75	9.2	1.60	9.1
Filling of 2l containers	0,20	0,8	33,3%	0.15	0.8	0.16	0.8	0.15	0.8	0.14	0.8
Action 3:											
Marketing and distribution by milk orocessor	3,40	14,2	7,9%	3.15	16.3	3.10	14.7	2.85	15.0	2.65	15.2
Interest, profit and overhead costs	1,80	7,5	20,0%	1.50	7.8	1.65	7.8	1.50	7.9	1.45	8.3
Selling price to retailer	20,70	86,6	22,8%	16.85	87.1	18.38	86.9	16.40	86.5	14.99	85.7
Action 4:											
Retailer mark-up	3,20	13,4	28,0%	2.50	12.9	2.78	13.1	2.55	13.5	2.50	14.3
Selling price to consumer	23,90	100,0	23,5%	19.35	100.0	21.16	100.0	18.95	100.0	17.49	100.0
	-										

Source: SAMPRO (2017) and own calculations

<sup>1</sup> A number of highly experienced and informed milk processors were requested to indicate what they regard as typical low costs and the typical high costs in South Africa for each of the value-adding activities. It must be emphasised that the milk processors was to indicate what can, according to their judgment, be regarded in the South African dairy industry as the typical low and high costs of each value-adding activity. This does not mean that milk processors was to indicate what can, according to their judgment, be regarded in the South African dairy industry as the typical low and high costs of each value-adding activity. This does not mean that the milk processors continuously achieve the prices in the marketplace, as set out in the above calculations.

	High	cost		High	cost	High	cost	High	i cost	Hig	h cost	
	Jan	-17	Jan-17 vs Jan-16	Jan	-16	Jan	-15	Jar	-14	Ла	n-13	
ltem	R/2I	% of selling price	%	R/21	% of selling price	R/2l	% of selling price	R/21	% of selling price	R/2I	% of selling price	
Raw milk price (21)	10,50	36,4	16,7%	00.6	33.6	10.40	35.3	8.35	32.4	7.60	31.5	
Action 1												
Raw milk collection and transport to processing plant	1,35	4,7	3,8%	1.30	4.9	1.25	4.2	1.15	4.5	1.02	4.2	
Action 2:												
Processing and quality assurance	2,70	9,4	1,9%	2.65	6.6	2.75	9.3	2.50	9.7	2.40	6.6	
Container (2l plastic or 2l gable top)	3,20	11,1	3,2%	3.10	11.6	3.03	10.3	2.75	10.7	2.60	10.8	
Filling of 2l containers	0,30	1,0	50,0%	0.20	0.7	0.22	0.7	0.20	0.8	0.18	0.7	
Action 3:												
Marketing and distribution by milk processor	4,30	14,9	1,2%	4.25	15.9	4.65	15.8	4.25	16.5	3.95	16.4	
Interest, profit and overhead costs	2,50	8,7	0,0%	2.50	9.3	2.70	9.2	2.45	10.1	2.40	6.6	
Selling price to retailer	24,85	86,1	8,0%	23.00	85.8	25.00	84.7	21.65	84.1	20.15	83.4	
Action 4:												
Retailer mark-up	4,00	13,9	5,3%	3.80	14.2	4.50	15.3	4.10	15.9	4.00	16.6	
Selling price to consumer	28,85	100,0	7,6%	26.80	100.0	29.50	100.0	25.75	100.0	24.15	100.0	
Cource: SAMPRO (2017) and	own calc	ulations										

Table 32: Typical cost composition of pasteurised full cream milk in 2l containers offered for sale in a retail store – high-cost scenario<sup>2</sup>

Source: SAMPRO (2017) and own calculations

Cognisance should be taken of the complexity of the different processes involved, from sourcing raw milk at farm level to retailing where milk and its by-products are sold. This is important in an endeavour to explain the difference between what farmers receive for their milk and what consumers pay for milk.

To produce 1l of packaged, standardised pasteurised milk, raw milk in excess of 1l is required. The processes of pasteurisation and packaging create a loss of milk volume, and as standardisation of the fat content of milk often means that fat (cream) will be removed, reducing the volume of milk, the quantity of milk available to sell will be affected.<sup>3</sup> In essence, if the fat content of the non-standardised raw milk is above the fat level required, the quantity of standardised milk will be lower than the quantity of non-standardised raw milk used as input. Therefore, in order to reduce the fat content, the cream portion (consisting typically of 40% fat) should be removed from the milk, and as a result, the quantity of milk will also decrease.

For example:

#### 100kg milk with 4% fat (or 4kg fat):

Equals 90.1kg of skimmed milk with 0.05% fat (or 0.04kg fat), *plus* 9.9kg of cream containing 40% fat (or 3.9kg of fat) (The fat of the two products, namely 0.04kg *plus* 3.96kg = 4kg), then

Equals 97.3kg of milk with 3% fat (or 2.92kg of fat) *plus* 2.7kg of cream containing 40% fat (or 1.08kg fat) (The fat of the two products, namely 2.92kg plus 1.08kg = 4kg).

**Diagram 2** illustrates the treatment of 100kg of whole milk with 4% fat content. The requirement is to produce an optimal amount of 3% standardised milk and a surplus of cream containing 40% fat.



#### Diagram 2: Principle of fat standardisation

#### Source: Dairy Processing Handbook (2003)

Note: that if the fat content of any non-standardised milk is lower than the required level, cream should be added. As a result, the quantity of such standardised milk will be higher than the quantity of milk with a too low-fat content that was utilised as the input.

3 Verified by dairy scientist, Mr. G. Venter (M.Sc. Food Science)

#### 5.3.2 Powdered milk

Figure 44 show the trends in the powdered milk retail prices for 250g and 500g (R/kg) packets between January 2012 and December 2016. The average retail prices in 2016 were R37.88 and R54.18 for 250g and 500g powdered milk, respectively. Compared with 2015, 250g and 500g powdered milk were both lower, on average, at R36.03 and R51.78, indicating increases of 5.14% and 4.63%, respectively, between 2015 and 2016.





#### Source: Stats SA (2017)

#### 5.3.3 Milk, cheddar cheese and brick margarine

Figure 45 show the trends in the retail prices for fresh full cream (R/l), fresh low-fat milk (R/l), cheddar cheese, and brick margarine (R/kg) between January 2012 and December 2016. The average retail prices in 2016 were R12.96, R14.36, R98.75 and R41.37 for full cream – fresh, low fat milk – fresh, cheddar cheese and brick margarine, respectively. Average retail prices were lower in 2015 for full cream – fresh, low fat milk – fresh and brick margarine at R12.13, R13.38 and R39.26, respectively, although cheddar cheese had a higher price of R119.52 in 2015. Between 2015 and 2016, the price changed, on average, by +6.87%, +7.32%, minus 17.38% and +5.36% for full cream – fresh (11), low fat milk- fresh (11), cheddar cheese (1kg) and brick margarine (1kg), respectively.





Figure 45: Retail price of milk, (R/l), cheddar cheese and brick margarine, (R/kg)

#### 5.4 Price trends in the maize sector

#### 5.4.1 Production, stock levels and consumption of white maize

White maize in South Africa is mainly produced for human consumption and about 80% of its production is processed in a form of maize meal. White maize is considered as a domestic stable food that the majority of people rely on. White and yellow maize are summer crops that are planted annually in the same season. The maize marketing season lasts from 1<sup>st</sup> of May to the 30<sup>th</sup> of April. **Figure 46** indicates the total supply and demand of white maize. The figure indicates that the total supply is always above the total demand, which implies that South African maize farmers are capable of producing sufficient maize in the effort of ensuring that the country is food secure. Total maize supplied in the 2016/17 marketing season reflected the lowest recorded stock of 5 541 128 tons, following the drought experienced during the same season under review.





#### Source: South African Grain Information Service (SAGIS) (2017)

**Figure 47** indicates the stock levels of white maize for the 2016/17 marketing season. Ending stock levels were 54% lower than the previous year, 2015/16. This was a result of lower crops recorded by the Crop Estimates Committee (CEC) in that season. Although the opening stock figures were higher, the country was able to meet its demand from the bulk maize that was imported. This indicated sufficient availability of maize stocks in the pipeline requirements for the 45-day commercial demand.





#### Source: SAGIS (2017)

White maize is predominately used for human consumption and yellow maize for animal feed. In some instances, that results in certain short-term shocks in the economy. This consumption pattern can change, depending on the price difference between white and yellow maize. If white maize trades below the price of yellow maize, feed manufacturers then tend to use white maize in their feed rations. If yellow maize trades below the price of white maize, the same tendency does not then occur in the market because consumers prefer white maize meal for consumption. **Figure 48** illustrates the breakdown of consumption patterns for the 2016/17 season. Processed white maize for human consumption increased from 3 526 000 tons in 2006/07 to 4 205 386 tons in 2016/17 season. This increase in processed maize for human consumption is possibly attributable to the growth in the human population over the past decade. Processed white maize used for animal consumption has decreased. This is because white maize is mainly produced for human consumption.



Figure 48: Domestic maize consumption (white maize) and population

Source: SAGIS (2017), Stats SA (2017) and own calculations

#### 5.4.2 Production, stock levels and consumption of yellow maize

Yellow maize is primarily used in the animal feed industry, while an estimated 10% is used for human consumption. **Figure 49** indicates that the yellow maize supply was higher than the demanded maize in South Africa during 2016/17 season. A total of 6 677 760 tons was supplied to the commercial market, which included producer deliveries of 3 909 000 tons and imports of 1 592 000 tons.





**Figure 50** illustrates the carryover stocks of yellow maize required in the pipeline (consumption for 45 days) of 681 172 tons. Ending stock levels of yellow maize were lower than in the previous season, while exports increased from 322 748 tons to 414 478 tons in 2016/17.





Sources: SAGIS (2017), Grain SA (2017)

Sources: SAGIS (2017), Grain SA (2017) and own calculations

	White	Yellow	Total
CEC* (Crop Estimate)	3 408 500	4 370 000	7 778 500
CEC (Retention)	0	0	0
SUPPLY			
Opening stock (1 May)	1 307 867	1 163 200	2 471 067
Prod deliveries*	3 550 461	3 909 690	7 460 151
Imports	648 885	1 592 599	2 241 484
Surplus	33 915	12 271	46 186
Total Supply White	5 541 128	6 677 760	12 218 888
DEMAND			
Processed	4 307 223	5 525 063	9 832 286
- human	4 205 386	575 931	4 781 317
- animal	88 807	4 936 505	5 025 312
- gristing	13 030	12 627	25 657
- bio-fuel	0	0	0
Withdrawn by producers	14 489	81 990	96 479
Released to end-consumers	5 851	150 604	156 455
Net receipts (-)/disp (+)	-1 488	12 180	10 692
Deficit	0	0	0
Exports	611 789	414 478	1 026 267
Total Demand	4 937 864	6 184 315	11 122 179
Ending Stock (30 Apr)	603 264	493 445	1 096 709
- processed p/month	358 935	460 422	819 357
- months' stock	1.7	1.1	1.3
Pipeline requirements (45 days stock)	531 027	681 172	1 212 199
Source: SAGIS (2017)			

#### Table 33: South African maize balance sheet for 2016/17 season

\*Crop Estimates Committee (CEC)

#### 5.4.3 White maize price trends

**Figure 51** illustrates trends of white maize prices in South Africa. The average spot price for white maize started to increase in December 2015. The spot prices were at peak in the beginning of January 2016 and increased rapidly above import parity in March 2016. The average spot price for white maize was at R3 988/ton in December 2016.





**Figure 52** explains the trends of domestic yellow maize prices. The average spot prices for yellow maize started to increase November 2015. The spot price reached a peak of R4 000/ton in the beginning of January 2016. This was R139/ton above import parity. Yellow maize prices started to decline in February 2016, moving closer to the export parity as the new crop season began. The average spot price was R3 279/ton in December 2016.





Source: Grain SA (2017)

<sup>5.4.4</sup> Yellow maize price trends

#### 5.4.5 Real farm value of super maize meal<sup>4</sup>

**Figure 53** shows the trend in the real farm value and real retail value of super maize meal between January 2008 and December 2016. The real farm value of super maize meal increased from R4 285/ ton in January 2008 and peaked at R7 532/ton in June 2016. The real retail value was R6 387/ton in February 2008 and increased to R9 512/ton in October 2016.



Figure 53: Real retail value and farm value of super maize meal

**Figure 54** shows the trend in the farm value shares for super maize meal. The farm value share of super maize increased between early 2008 and 2016. Between 2008 and 2012, the average farm value share of super fluctuated between 52% and 68%. In 2014, the farm value shares for super maize were fluctuating between 78% and 81% in 2016.





Source: SAFEX (2017), Stats SA (2017) and own calculations

Sources: SAFEX (2017), Stats SA (2017) and own calculations

<sup>4</sup> Due to the data limitation for the monitoring of an average retail price for special maize meal (5kg) by Stats SA for the period February 2015 to December 2016, this section will only include the spread for super maize meal (5kg).

**Figure 55** shows the FTRPS for super maize meal between January 2008 and December 2016. The FTRPS showed high instability as a result of a substitution effect between special and super maize meal. When prices change, a likelihood that arises is that consumers tend to switch to an affordable option of maize meal as pressure on disposable income is realised. The FTRPS of super maize meal between 2008 and 2016 was fluctuating between R1 218/ton and R2 129/ton.





Sources: SAFEX (2017), Stats SA (2017) and own calculations

#### 5.5 Wheat sector

#### 5.5.1 Production and imports

Wheat is predominantly produced in the Western Cape province, with an average crop production of 1 805 million tons being realised over the past ten years. During the 2015/16 marketing season, a total of 1 406 million tons of wheat was produced from 482 150ha. This was a 15.4% decrease from the 2014/15 season of 1 699 million tons. This decline in South African wheat production was a result of the severe drought that hit the country during the year under review (**Figure 56**). As a result, this increased the country's wheat imports to 2 062 million tons in 2015/16. Exports to other neighbouring countries amounted to 68 525 tons.



#### Figure 56: Area planted, production and imports of wheat



#### 5.5.2 Consumption

**Figure 57** illustrates domestic wheat consumption and production for the past 18 years. South African wheat consumption in the 2015/16 marketing season was 3 247 million tons. This was a slight decrease when compared with the 3 438 million tons in the 2014/15 marketing season. This decrease was due to a substitution effect from bread to rice or potatoes, which was experienced during the period under review. A large quantity of wheat produced locally is used for human consumption. Approximately less than 1% of wheat is used for the animal feed industry.



#### Figure 57: Wheat consumption and production

Source: SAGIS (2017)

#### 5.5.3 Price trends

**Figure 58** shows domestic wheat prices with import and export parity. From the movement of trends below, it can be seen that the domestic wheat price trades closely to the import parity. This implies that South Africa is a net importer of wheat, as local production does not meet commercial demand. Therefore, any change in exchange rates and global wheat prices due to structural changes in the economy will be immediately noted in the domestic wheat price. The domestic wheat price traded between R3 922/ton and R4 900/ton in the 2016 marketing season.





#### Sources: SAGIS (2017), SAFEX (2017)

#### 5.5.4 Real farm-gate and retail prices of brown and white bread<sup>5</sup>

**Figure 59** represents the real farm-gate price of wheat per ton, lagged by four months, compared with the retail prices of brown and white bread. The average real farm-gate price of wheat (lagged by four months) increased by 22% from R2 959/ton in 2015 to R3 612/ton in 2016. The retail price of white bread increased by 29.3%, while brown bread highly increased by 22% from 2015 to 2016. This increase in the price of bread was a result of the forces of supply and demand for raw wheat. South African wheat production declined below the normal average production due to drought together with the substitution of a large number of wheat fields, to maize production, specifically in the Free State province.

<sup>5</sup> In order to calculate the real farm value and real retail value of a ton of flour used for a 700g loaf of white bread, the following assumptions were made: the extraction rate from 1 ton of wheat is 0.8 tons of white bread flour and 0.87 tons of brown bread flour. An average of 464g of flour is needed to bake a 700g loaf of white bread and 440g to bake a 700g loaf of brown bread.



Figure 59: Real farm-gate price of wheat and real retail prices of brown and white bread

Sources: SAFEX (2017), Stats SA (2017) and own calculations

**Figure 60** illustrates the percentage differences in real prices between white and brown bread from 2011. On average during 2016, white bread was 11.14% more expensive than brown bread was. Brown bread is zero-rated for value added tax (VAT), while 14% VAT is charged on white bread.





Price difference (percentage) between white and brown bread

Source: Stats SA (2017) and own calculations

#### 5.5.5 Real farm value share of brown and white bread

**Figure 61** shows that the real farm value shares for both brown and white bread were between 17% and 18% for 2015. The averages in 2016 were 18% and 19% for brown and white bread, respectively.



Figure 61: Real farm value share of brown and white bread

#### Sources: SAFEX (2017), Stats SA (2017) and own calculations

#### 5.5.6 Real farm-to-retail-price-spread (FTRPS) of white and brown bread<sup>6</sup>

**Figure 62** shows the real FTRPS for brown and white bread. On average, the FTRPS for brown bread was R21 754/ton of flour in 2016, while the white bread average FTRPS was R22 343/ton of flour in 2016.



#### Figure 62: Real FTRPS of brown and white bread

Sources: SAFEX (2017), Stats SA (2017) and own calculation

<sup>6</sup> Note: The real farm to retail price spread is calculated by deducting the real farm value for a ton of flour from the real retail value of a ton of flour. The price spread is representative of all the costs involved in the value-adding process.

#### 5.6 Sunflower seed

Sunflower seed is a summer grain which is usually planted around October to mid-January. Sunflower is mainly produced within the Free State and North-West provinces. Sunflower seed constitutes about 5% of the total grains produced in South Africa. Sunflower oil is one of the products manufactured from processed sunflower seeds. Other products include meal that is used in the animal feed industry. The husks are used as bedding in the broiler industry and as an energy source at processing plants. The marketing year for sunflower seed lasts from 1 March – 28/29 February.

#### 5.6.1 Production and consumption of sunflower seed

**Figure 63** indicates areas planted, producer deliveries, and processed sunflower seeds for consumption. The sunflower area planted varied between 718 500ha and 828 000ha over the period from 1999 to 2016. A farmer's decision to plant sunflower is generally dependent on the various factors that include the prices of substitute products, such as maize, and climatic conditions for that specific planting season. Sunflowers adapt well under South African climatic conditions. Sunflowers can be produced even when planting conditions are not suitable for other crops. Over the past ten years, the average yields (tons/ha) varied between 0.95 to 1.55 tons/ha. Producer deliveries and processed sunflower seeds for consumption (human, animal, and crushed for oil and oilcake) have been fluctuating over the past years, with high crops and low-harvested crops, especially during drought-stricken years. Processed sunflower seeds decreased by 5.3% from December 2015 (747 808 tons) to December 2016 (707 483 tons), while the area planted improved from 576 000ha in 2015 to 718 500ha in 2016. This was due to the substitution effect of sunflowers for maize. Due to the drought in the year under review, farmers that were not able to plant maize planted sunflowers instead.



## Figure 63: Area planted, production deliveries and processed sunflowers seed for consumption in South Africa

Sources: SAGIS (2017) and own calculations

#### 5.6.2 Price trends for Sunflower Seeds

**Figure 64** illustrates domestic sunflower prices (SAFEX, 2017). The average domestic sunflower price decreased by 16% from December 2015 (R6 979/ton) to December 2016 (R5 862/ton). This decrease in the domestic price of Sunflower seeds might be attributed to the increase in producer deliveries during the 2016 marketing season. The retail price of sunflower oil (750ml) increased by 8.4% from December 2015 (R20.76/750ml) to December 2016 (R22.51/750ml).



Figure 64: Domestic sunflower seed price and retail price of sunflower oil

#### Sources: SAGIS (2017) and Stats SA (2017)

#### 5.7 Soybeans

Soybean is a summer crop which is mainly produced in the Free State, Kwa-Zulu Natal and Mpumalanga provinces, under both dry-land and irrigation systems. These provinces account for approximately 85% of soybeans produced in the country, with a recent growth in production in the North-West province. Soybeans are estimated to constitute about 9% of the total summer grains produced domestically.

#### 5.7.1 Soybean production

Domestic soybean production for the 2016/17 marketing season was estimated at 71 3195 tons, as indicated in **Figure 65**. This represents a 32% decrease from previous 2015/16 season. The total area planted in 2016/17 decreased by 27% from 2015 (687 300ha) to 2016 (502 800ha). Planting soybeans in the 2016/17 marketing season proved to be not highly profitable, when compared with sunflower and maize. This could be attributed to a decline in demand from the animal feed industry, especially during the periods of increases in poultry imports.



Figure 65: Area planted, production deliveries and total demand for soybean seed in South Africa

#### Sources: SAGIS (2017) and own calculations

#### 5.7.2 Soybean consumption

The domestic demand for soybeans in South Africa was approximately 987 727 tons in 2016/17. About 98 722 tons were processed as feed and full-fat soybean meal. This was an 18.9% decrease from previous 2015/16 season. The 2016/17 soybean crop of 98 722 tons was processed for feed and full-fat soybean meals, and constituted the lowest quantity processed in the preceding fifteen years. Human consumption of soybeans was estimated at 23 875 tons in 2016, as illustrated in **Figure 66**.



Figure 66: Feed and full-fat soya, crushed for oil and oilcake, total domestic demand and consumption of soybean seed in South Africa

Sources: SAGIS (2017) and own calculations

#### 5.7.3 Price trends for soybeans

**Figure 67** illustrates the domestic (SAFEX) import and export parity prices at Randfontein for soybeans. The domestic average price increased by 1.1% from December 2015 (R6 433/ton) to December 2016 (R6 510/ton). The import parity price decreased by 0.6% over the same period, while export parity increased by 7%.





#### 5.8 Vegetable sector

**Figure 68** depicts the volumes of selected fresh vegetables sold at the national fresh produce markets from January 2009 to December 2016. The average volumes of onions and potatoes sold decreased by 3% and 15.7%, respectively, between 2015 and 2016. The average volume of cabbage and tomatoes increased by 3.2% and 6.3%, respectively, between 2015 and 2016.



Figure 68: Volume of selected vegetables sold at fresh produce markets

Sources: DAFF (2017) and own calculations

Sources: Grain SA (2017) and own calculations

The market price trends for selected fresh vegetables from January 2009 to December 2016 are shown in **Figure 69**. The market prices for selected vegetables were, on average, higher in 2016, compared with 2015. In nominal terms, the average increase in market prices, per ton, of cabbages, onions and potatoes were 17.5%, 60.9% and 64.4%, respectively, in 2016, as compared with 2015. Nonetheless, the average market price per ton of tomatoes was 4.6% lower in 2016, as compared with 2015.





#### Sources: DAFF (2017) and own calculations

**Figure 70** illustrates the nominal retail price trends for selected fresh vegetables from January 2010 to December 2016. The prices for fresh cabbages, onions and potatoes, per kg, increased by 2.21%, 35.82% and 33.09%, respectively, between 2015 and 2016. The average retail price of fresh tomatoes, per kg, decreased by 7.87% between 2015 and 2016.





Sources: Stats SA (2017) and own calculations

**Figure 71** depicts the annual changes in the prices of vegetables between 2012 and 2016. The most notable trend is how cauliflower and lettuce had the highest prices, annually. It is also evident that most of the prices of vegetables fell in 2016. The prices of avocados and onions, however, increased in 2016, in comparison with the years under review.





Sources: Stats SA (2017) and own calculations

#### 5.9 Fruit sector

**Figure 72** depicts the retail price trends for selected fruits from January 2010 to December 2016. On average, the retail prices for the selected fruits were higher in 2016, compared with 2015. The average prices per kg of apples, bananas, and oranges were 4.72%, 11.14%, and 104.95% higher, respectively, in 2016, as compared with 2015.





Sources: Stats SA (2017) and own calculations

# Part 6 SELECTED TOPICS

6

## 6. SELECTED TOPICS

## 6.1 Grain crops and red meat production outlook in the 2016/17 season: possible effects of good rainfall

#### 6.1.1 Introduction

The last season (2015/16) has seen South Africa experience one of the severest droughts in history, where temperatures often reached above 40 degrees Celsius, thereby exacerbating water shortages through increased evaporation, given that the country is characterised by scarcity of water – being one of the 30 driest countries in the world. Consequently, farmers using irrigated land were subjected to strict restrictions, limiting them to only pumping water into their irrigation systems at certain times of the week.

As a result, plantings of summer crops were reduced and natural grazing land deteriorated further, forcing farmers to slaughter their livestock to avoid deaths due to unavailability of fodder. This saw the cost of farming grow, the supply of agricultural raw materials declined, and food prices pitched upwards. Many commercial farmers and small-scale farmers could not adapt to the drought effects. In addition, the consumers, particularly the poor, were hit the hardest.

For this season (2016/17), the situation is expected to be better, compared with the previous one, although the full recovery of the agricultural sector may only take effect over a few years to come. The South African Weather Services (SAWS) indicates that the country's summer rainfall areas may expect wetter conditions. This implies some relief from severe drought effects for the eastern and northern parts of the country, while the central and western parts are still faced with below-normal rainfall conditions.

Against this background, this section endeavours to look at the situation during the severe 2015/16 drought season, as compared with the drought relief situation expected for the current season (2016/17), and to provide an expected outlook of production and prices for certain agricultural commodities. The focus is on grain crops, such as maize, wheat and sorghum, as well as on red meat production.

#### 6.1.2 Area planted and production

**Figure 73** presents an overview of production, as well as the areas of land allocated for maize, wheat and sorghum. It indicates that the amount of land allocated to maize has tended to fluctuate over the last five years, as has the production. However, the 2015/16 season saw the sharpest decline, with the area planted falling from 2.65 million ha to 1.94 million ha, causing a decline in production from 9.94 million tons to 7.54 million tons. This could be attributed to mitigation responses made by the farmers, following the decline in production from 14.31 million tons to 9.94 million tons in the previous season (2014/15). Consequently, the amount of land allocated to wheat, in substitution of maize, increased over the last two seasons (2014/15 and 2015/16), as some farmers shifted from maize to wheat. However, this strategy did not pay off that much because the productivity of wheat was also affected by drought, and despite the fact that some parts of the western region were harvesting above-average yields per ha, the overall production declined. Sorghum was affected in the same way, i.e. the area planted and productivity declined.



Source: CEC (2017a & 2017b)

6.1.3 Effect on trade balance

#### Maize

South African maize exports have played a key role in ensuring food security in the Southern African Development Community (SADC) regions. It is estimated that in normal production seasons, 40% of the maize traded in SADC is of South African origin. However, due to the occurrence of drought, South Africa had to import more maize and export less than usual, as presented in **Figure 74**. As such, the prices of maize increased, putting pressure on consumers, particularly given the fact that maize is a staple food and therefore tends to be largely price inelastic.



#### Figure 74: Maize trade: South Africa

Sources: Trade Map (2017) and SAGIS (2017)

#### Wheat

Wheat is the second most important grain crop produced in South Africa. Most of the wheat produced in South Africa is bread wheat, with small quantities of durum wheat, which is used to make pasta, being produced in certain areas. **Figure 75** indicates that there has been a decrease in the production of wheat, resulting in an increase in imports during the drought season. However, there were no extremes, as might be expected under the circumstances. This can be attributed, partly, to a shift from maize to wheat as a mitigation strategy. For example, the area (ha) planted under wheat increased in the Free State province, from 69.5 thousand ha to 110 thousand ha in the 2016 season. This was due, mainly, to risk aversion shown by maize farmers, where they shifted away from the poor maize and soya bean harvests of the 2015 to wheat as a mitigation strategy. However, the production of wheat also declined, on average, although some farmers in some parts of the western region had achieved yields of approximately 4.5 tons/ha, which was above average for the region.





#### Sorghum

Sorghum is one of the most important grain crops produced in South Africa, although it contributes only a small percentage to total domestic grain crops. The trend shows that the country has always imported more sorghum than it produces. **Figure 76** shows that imports increased during the drought seasons, although production did not seem to be much affected in terms of quantities produced.

Sources: Trade Map (2017) and SAGIS (2017)





Sources: Trade Map (2017) and SAGIS (2017)

#### 6.1.4 Beef production

Globally, the demand for beef is increasing due to growing populations. The per capita consumption of beef in the country is 19kg per annum, and South Africa imports about 10 thousand tons of beef from Botswana.

According to Phillips (2013), the producers of red meat should target increasing herd efficiencies and produce heavier carcasses, and in that way, the national red meat production could increase, and in turn, improve the supply of beef and the viability of the red meat sector. Currently, the world consumption of red meat has increased by more than 20% and the forecast shows that this figure will double by 2023 – South Africa will also be exposed to this change (RMRD, 2016). This is of concern in South Africa's context, given that the country produces only about 80% of its total demand, and imports the remainder.

The last season saw an increase in the supply of red meat. This was attributable to the severe effects of the drought that saw livestock producers endeavouring to get rid of their stock due to lack of fodder. Some livestock was lost due to death. For example, in 2016, farmers were slaughtering about 15 000 cattle per week (Hlomendlini, 2017). However, the prices did not go down, as would normally be expected when the supply increases.

The current season has recently experienced good rains, which may still continue, as predicted by the South African Weather Service (Hlomendlini, 2017). This should provide some relief in terms of the production of fodder and rearing of animals. However, it must be appreciated that the severity of the drought will have a long-lasting effect on animal producers because they are now faced with the challenge of re-building their stock, which might take them more than three years to do.

This implies that the red meat prices are not likely to improve anytime soon. What is better appreciated, is that, at least, the rains have been and will be helpful in the sense that animal producers can now keep their stock on the ground longer, thereby limiting the slaughtering rate as the farmers look to re-building their stock. However, this may mean increased imports of red meat, needed to meet the local demand. Hence, no relief on red meat prices is expected, anytime soon.

#### 6.1.5 Conclusion

South Africa is one of the 30 driest countries in the world. During the 2015/16 season, South Africa experienced severe drought, where temperatures often rose above 40 degrees Celsius. The outlook survey for grain crops, i.e. maize, wheat and sorghum, was conducted to compare the situation during the drought season (2015/16) with the expected drought relief situation of the 2016/17 season in order to provide an expected outlook of production and prices for the selected agricultural commodities. The results indicate that the areas planted, as well as the productivity, for maize and sorghum reduced in the 2015/16 season. This seems to indicate that maize and sorghum farmers in South Africa are risk averse. The area planted for wheat increased during this season. However, this did not pay off that much because the average productivity of wheat was also affected by the drought. This situation caused increases in the prices of food products, putting pressure on consumers. Moreover, this has caused a negative trade balance, where the imports exceeded the exports. An outlook survey for the red meat industry was also conducted, and this indicated an increase in the supply of red meat in the 2015/16, although the prices did not reduce, as would be expected when the supply increases. The current season has recently received good rains. This should provide some relief in terms of the production of grains and rearing of animals. However, it is noted that the severity of drought will have a long-lasting effect on agriculture.

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## Notes






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